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A COMPARISON BETWEEN CENTRE-BASED AND EXPEDITION-BASED (WILDERNESS) *ADVENTURE EXPERIENTIAL LEARNING* REGARDING GROUP EFFECTIVENESS: A MIXED METHODOLOGY

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ABSTRACT

The purpose of this study was to compare the effectiveness of a centre-based adventure program with an expedition-based wilderness program with regard to group effectiveness. For comparisons, this study made use of a crossover experimental design combined with a mixed-method approach. Participants were 28 third-year students (14 men and 14 women), aged 20-23 years (21.6±0.7) of the North-West University. Both quantitative and qualitative instruments were used to gather the data. The results indicated medium (d=0.5) to practically significant (d≥0.8) differences mostly in favour of the centre-based adventure program (communication abilities, productiveness and competition within the group). Only 'group morale' was in favour of the expedition-based wilderness program, which showed a medium effect (d=0.5). A significant sequence effect in favour of first attending the centre-based adventure program and thereafter the expedition-based wilderness program was documented, which led to the conclusion that the two programs should be used in combination. Although both programs were rated very efficient for the improvement of group effectiveness, it is strongly recommended that a centre-based adventure program be used – mainly on account of active involvement, intensive social interaction and continuous group discussions.

Key words: Group effectiveness; Ropes course; Challenge course; Wilderness experience program; Wilderness therapy.

INTRODUCTION

Apart from the popularity and increasing success of adventure experiential learning[(1)], a considerable amount of uncertainly exists regarding the relationship between program components and desired outcomes (Russell, 2000; Russell & Phillips-Miller, 2002; Sibthorp, 2003; Gass & Priest, 2006). What is experienced, is that too much attention is given to **what** participants learn and not **how** learning takes place (Sibthorp *et al.*, 2007; Paisley *et al.*, 2008). The use of adventure experiential learning is mainly centre-based and wilderness-based (Hinkle, 1999; Hans, 2000), and due to this varying use of several adventure activities

and methods (centre-based adventure programs as opposed to expedition-based wilderness programs), Epstein (2004) and Gillis and Gass (2004) hold the opinion that it has led to a pool of confusing outcomes. Any similarities taken into account, Hans (2000) and Pohl *et al.* (2000) are convinced that it cannot be assumed that a centre-based adventure program (CBAP) and an expedition-based wilderness program (EBWP) have the same effect. According to Russell and Phillips-Miller (2002) and Russell and Farnum (2004), more attention should be given to the difference between these two programs. In support of this, Pohl *et al.* (2000) and Yoshino (2005) point out that very few studies focus on the effect of wilderness-based programs compared to other types of adventure programs and that few advantages reaped from adventure experiential learning focus on the effect of the wilderness. In this respect Hui and Cheung (2004) are of the opinion that the design of a specific program for a specific group of participants and the effect thereof are equally important.

Earlier research regarding adventure experiential learning, according to Ewert and McAvoy (2000), are more or less exclusively focused on the individual, but currently a growing interest exists in the advantages it holds for group development. Presently the use of CBAP and of EBWP are known for the development of social abilities (Meyer, 2000; Hui & Cheung, 2004; Dent, 2006), trust, communication, decision making, group dynamics (Ewert & McAvoy, 2000), group cohesion (Glass & Benshoff, 2002; Breunig *et al.*, 2008) and interpersonal skills (Hill, 2007). In an attempt to link program components to program outcomes, Priest (1996) (see Priest, 1998 and Williams, 2000) indicated by way of a comparative study that if group initiatives are more successful than ropes courses, the outcomes can be very valuable for determining which approach needs to be followed for reaching specific program outcomes (organisational trust). With regard to centre-based team-building programs and wilderness expeditions, Greffrath *et al.* (2007), in another comparative study, found that if significant group development is sought, wilderness expeditions should rather be used.

Taking the above-mentioned into consideration, Martin and Leberman (2005) are convinced that if the true meaning of adventure experiential learning is to be understood, one should steer away from using quantitative research methods. To minimise generalisation and to accurately interpret the true meaning of this type of experience, several researchers (Romi & Kohan, 2004; Berman & Davis-Berman, 2005; Martin & Leberman, 2005; Greffrath *et al.*, 2007), recommend that more regular qualitative research be done.

PURPOSE OF THE STUDY

Based on the studies of Priest (1996 & 1998), it therefore was the aim of this study firstly, to determine, by means of a comparative study with a mixed methodology (Hui & Cheung, 2004; Martin & Leberman, 2005; Sibthorp *et al.*, 2007; Sklar *et al.*, 2007; Paisley *et al.*, 2008), the influence of a CBAP as opposed to that of an EBWP regarding group effectiveness. Secondly, the aim was to establish which program components within each program contributed to the development of group effectiveness and thirdly, whether a combination of the two programs could not possibly present the more desired outcome. To reach specific program outcomes regarding group effectiveness, the outcomes of this study could serve as an important indication of the specific approach or procedure that needs to be followed for designing, developing and implementing participation opportunities.

METHOD OF INVESTIGATION

Research design

For purposes of the present study, a crossover research design was used, which consists of a mixed methodology De Vos (2005) refers to as a combination of quantitative and qualitative research in a single study. In a crossover research design all the participants are exposed to both experimental interventions (Simon, 2002), which in this case, are the CBAP and the EBWP. To confirm findings, triangulation was applied which, according to Padgett (2004) and Russell (2006), obtain the confirmation of two or more types of data from, amongst others, interviews, participating observation and documents in writing to investigate the same phenomenon. In this respect the concurrent triangulated strategy of Creswell (2009) was used, in which both quantitative and qualitative data were captured simultaneously and compared to establish whether any similarities, differences or combinations had occurred. The advantage linked to this is that most researchers are familiar with this method and that it often leads to valid and reliable findings.

Investigation population

The total investigation population comprised 28 third-year students (14 men and 14 women) of the North-West University (Potchefstroom Campus) between the ages of 20 and 23 years (21.6±0.7). This group (N=28) was subdivided into two separate groups (n=14) each consisting of 7 men (n=7) and 7 women (n=7). Simon (2002) contends that when using a crossover research design, a control group is not necessary since each group serves as its own control group. Participation in both programs took place on a voluntary basis.

Procedures

Subjects were identified by means of an availability sample and were randomly allotted in advance to the 2 separate experimental groups, which in this case participated in the CBAP and EBWP. The dependent variable, namely group effectiveness, was measured after each program. Coupled with this, focus groups and one-on-one interviews were conducted with each participant after conclusion of each program. All test opportunities took place under the supervision and control of the researcher. To limit the transfer effect to the minimum and to ensure the availability of participants, a period of 5 months (contrary to the 3 and 6 months as recommended by Priest and Lesperance, 1994) was allowed between Test 1 and Test 2, which took place during university holidays in April and September. Both programs were presented in collaboration with "Outward Bound South Africa"[(2)] and "The Teambuilding Institute"[(3)], which were led by professionally qualified facilitators. Regarding the duration of the programs, the CBAP lasted 2 days, whereas the EBWP extended over 7 days. Programs of different duration (as was the case of the 2 groups that participated in both programs) were comparable.

The North-West University (Potchefstroom Campus [NWU-0010-08-S1]) provided ethical approval for the execution of this research project. The parents of the participants were informed of the research project via an information letter along with informed permission and medical and indemnity documents, which were completed by the participants and/or their parents.

Measuring instruments

An adapted group effectiveness questionnaire was used for measuring group effectiveness (Herselman, 1998). It was utilised with a view to establish what effect the CBAP and the EBWP had on group effectiveness and what advantages, if any, each holds for the individual. The questionnaire contained closed-ended questions, regarding group aspects as well as individual aspects, measured on a 5-point Likert scale, to determine the participants' attitudes regarding these variables, after exposure to the CBAP and the EBWP. The participant's views, ideas, feelings or convictions regarding a specific program cannot be measured unless they have participated in/have been exposed to a specific program/intervention. Hence, frequency, means, percentages and standard deviation were only determined after the programs were concluded. Semi-structured one-on-one and focus group interviews (Greeff, 2005), as well as participating observation, were used for the qualitative survey (Strydom, 2005). Due to the multidimensional nature of adventure experiential learning, Epstein (2004) recommends that a variety of research methods be used, which include a combination of quantitative and qualitative approaches. In this respect, Fontana and Frey (2000) contend that qualitative research methods enable the researcher to investigate meticulously, clarify uncertainties and increase the accuracy of feedback.

Data analysis

The quantitative data were analysed statistically with the help of the Statistical Consultation Services at North-West University (Potchefstroom Campus). The data gathered by means of the questionnaire were analysed by using the SAS Institute Inc. (2003) computer program. PROC MIXED in SAS (SAS Institute Inc., 2003), was used to establish whether a sequence and/or period effect had occurred regarding the program and whether differences were found between the participants and the programs. Sequence effects show whether the sequence of participation (e.g. participation in the CBAP first or vice versa), had an effect on the outcome, whilst the period effect indicated whether any seasonal influences (weather conditions, autumn as opposed to spring) had occurred. On account of the specialised nature of the adventure program it was impossible to deal with more than 14 participants per group. It can possibly be too few to ensure enveloping the power of the tests on a 5% significance level; hence, statistical significance was investigated at a 10% significance level. Statistical significance does not necessarily mean the result is important in practice. Practical significance can be understood as a large enough difference to have an effect in practice. A natural way to reflect on the practical significance is to report on the standardised difference between means (effect sizes) (Steyn, 2005). In these results effect sizes of approximately 0.2 are considered small, 0.5 as large enough to be observed, while effect sizes of approximately 0.8 and larger are seen to be practically significant (Cohen, 1988). The qualitative data gathered during the interviews and participating observation were transcribed with the aim of capturing striking and general tendencies. To portray the coherence of the total investigation, these tendencies were categorised into related themes and sub-themes (Tesch, 1990; Poggenpoel, 1998). Interpreting the data-analysis (Tesch, 1990), 2 steps, namely decontextualizing and recontextualizing, were used to analyse qualitative data.

RESULTS

***TABLE 1*: MEAN AND SD OF EVALUATION TESTS**

	Test 1				Test 2			
	Group 1 EBWP (n=14)		Group 2 CBAP (n=14)		Group 1 CBAP (n=14)		Group 2 EBWP (n=13#)	
Component	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1. Problem solving	4.0	0.9	4.5	0.5	4.2	0.7	4.5	0.5
2. Communication ability	3.9	1.0	4.4	0.6	4.4	0.7	4.2	0.6
3. Group cohesion	4.1	0.9	4.3	0.7	4.2	0.7	4.3	0.5
4. Conflict handling	4.1	0.8	3.9	1.0	4.1	0.8	4.4	0.7
5. Competition in the group	2.7	1.3	3.3	0.9	3.7	1.5	2.8	1.1
6. Cooperation between members	4.3	1.1	4.9	0.4	4.4	0.8	4.8	0.4
7. Purposefulness	4.1	0.9	4.7	0.5	4.4	0.9	4.8	0.4
8. Leadership development	4.1	0.7	4.1	0.5	4.4	0.8	4.4	0.7
9. Changes in attitude	3.8	0.6	4.0	0.8	4.1	0.9	4.1	0.5
10. Productivity	4.1	0.8	4.9	0.4	4.6	0.6	4.6	0.5
11. Success experience	4.4	0.5	4.8	0.4	4.5	0.5	4.8	0.4
12. Team spirit	4.7	0.6	4.8	0.4	4.4	0.6	4.8	0.4
13. Decision-making proficiency	3.6	0.8	4.2	0.4	3.7	0.7	4.1	0.5
14. Creativity	4.0	0.8	4.1	0.6	4.1	0.7	4.0	0.4
15. Group morale	4.5	0.5	4.3	0.5	4.3	0.6	4.7	

# One participant in Group 2 (Test 2) withdrew for health reasons
CBAP = Centre-Based Wilderness Program EBWP = Expedition-Based Wilderness Program

The means of evaluation tests (Table 1) gave a clear indication that the CBAP, as well as the EBWP were effective for developing group effectiveness. In most cases a statistically significant participant effect was found, which indicates that different participants gave different responses. There was only a single statistically significant, as well as a medium period effect (leadership development, d=0.50), which indicates that no seasonal effect had occurred. Statistically significant, medium and practically significant sequence effects were observed in problem solving (d=0.65), cooperation between members (d=0.91), purposefulness (d=1.01), productivity (d=0.69), success experienced (d=0.95) and decision-making proficiency (d=0.84). This indicates that subjects who first participated in the CBAP and then in the EBWP gave a visible (d≈0.5) or significantly higher evaluation of both the programs in practice than the participants who first participated in the EBWP and then in the CBAP (Table 2). Statistically, medium and practically significant differences between the two programs were observed in communication ability (d=0.52), competition in the group (d=0.83) and productivity (d=0.68), where evaluation of the CBAP was also visibly (d≈0.5)

to significantly higher in practice than the EBWP (Table 2). Group morale (d=0.58) evaluation of the EBWP in practice was visibly (d≈0.5) higher than in the CBAP (Table 2).

DISCUSSION

This study attempted firstly, to determine what the difference was in effectiveness between a CBAP and an EBWP for developing group effectiveness. Secondly, the aim was to establish which program components within each program had contributed to group development and thirdly, whether a combination would not perhaps present a more desired outcome. In contrast to the study of Greffrath *et al.* (2007), this study recommends that if significant group development is sought, a CBAP should be used. Coupled with the quantitative data (Table 1 & Table 2), the information gathered through participating observation, one-on-one and focus group interviews (qualitative data) gave strong support for this assumption.

Ninety-six per cent (96%) of the participants indicated that the CBAP should rather be applied for group development. It was clear that the intensive social interaction, active involvement, continuing group discussions and reflection sessions were the most important components of the CBAP, which brought significant change to the fore.

***TABLE 2*: BETWEEN CBAP AND EBWP GROUPS REGARDING EFFECTIVENESS**

	p-Values		
Component	Sequence	Period	Program
1. Problem solving	0.0368*	0.3975	0.6881
2. Communication ability	0.4678	0.3148	0.0641*
3. Group cohesion	0.3702	0.5147	0.8444
4. Conflict handling	0.6695	0.1925	0.1925
5. Competition in the group	0.7211	0.2628	0.0046*
6. Cooperation between members	0.0610*	0.8117	0.4298
7. Purposefulness	0.0573*	0.1448	0.3944
8. Leadership development	0.8714	0.0732*	0.7407
9. Changes in attitude	0.7222	0.2423	0.4467
10. Productivity	0.0240*	0.3877	0.0249*
11. Success experience	0.0052*	0.7589	0.7589
12. Team spirit	0.1375	0.3944	0.1448
13. Decision-making proficiency	0.0227*	0.7951	0.4798
14. Creativity	0.7451	0.9586	0.1693
15. Group morale	0.6271	0.5518	0.0440*

* Significance at a 10% level (p=0.1)
CBAP = Centre-Based Wilderness Program EBWP = Expedition-Based Wilderness Program

According to Glass and Benshoff (2002), programs such as the CBAP present structured group experiences during which the facilitator gives direction and instructions, but at the same

time leaves the responsibility to complete activities successfully to the group. Precisely because of the structured nature of the CBAP, the outcome is much more specific, purposeful and outcome-based regarding group development. Coupled with this, there are more opportunities for group development throughout the entire program.

All deductions are blocked out for a brief period so that the participant can focus on the immediate events. In this respect three of the participants alleged the following:

> *I would say TBI (CBAP) exactly due to the fact that you are ensured that each person will participate in it ... it is the anticipated result and it is purposeful development. You may ask certain questions for which you know there is a need.*
>
> *The program disclosed it a bit more for me. For instance, the good we did, one can by no means do it on one's own, everything we did was in group context and we had to complete it successfully ... and life is not individual ... one will have to cooperate with people to complete it.*
>
> *I would say the fact that in the mountains (EBWP) one does not have such a lot of controlled work in the team itself. You know that there are things that go their own way. Where ... at TBI (CBAP) we had a constructive and regulated program. Therefore, everybody was involved all the time. Whereas on the mountain you have ... it (the program) has its own pace at which it progresses and people break away, people leave it, people can no longer. Therefore the group breaks up as you go along.*

Leberman and Martin (2002/2003) mention that a considerable number of sources covering adventure experiential learning indicate that learning takes place easiest when the participant finds himself outside his comfort zone. Contrary to this, Leberman and Martin (2002/2003) found that the most important learning that had taken place was not attributed to this uncomfortable situation (outside one's comfort zone or state of dissonance). Other components of the program were responsible for this, such as purposeful activities, the challenge to function as a group and the reflection linked to it (Leberman & Martin, 2002/2003). Along with this, Zink and Leberman (2001) recommend that facilitators be cautiously mindful of participants' needs and that challenge should not only take place at a physical level. In this respect it was found that the CBAP was markedly more suitable to challenge both the group and the individual in different ways.

> *I think this program (CBAP) depends a lot on your personality, far less than the mountain does I think your personality is stretched far more in TBI, because ... your participation in the group is directly linked to the outcomes. Where, in the mountains (EBWP), if you are an introvert, you can withdraw a bit. But in TBI you do not withdraw.*

The way in which the CBAP challenged the participants at several levels was illustrated by remarks that a different way of thinking should be applied to complete the activities successfully.

> *The activities, you see. Each one makes you think in another way, all the things you have to solve and it brings a little something new to the surface. Then you think a bit differently about other things and so on. It is a bit of a different mind-*

> *set than you have at this camp (EBWP). It is different to the daily routine. This is what makes it interesting to me.*
>
> *Yes, because you use an entirely other way of thinking, you see, like me who is always just searching for facts, now I need to apply logic. One uses a completely different part of your brain … I have a creativity of nil … it made me think creatively.*

Martin and Leberman (2005) and Paisley *et al.* (2008) found that the most learning that took place could be attributed to the social circumstances in which the participants found themselves. Although these findings were made regarding group behaviour during expedition-based programs, this study found the same during the CBAP. Contrary to expedition-based programs, this study strongly claims that there are many more opportunities for learning in group context during centre-based programs.

> *For me, it was in the mountains (wilderness), the environment where you were. It played the strongest role at TBI (the centre) the strongest role was the fact that you wish to participate all along. As I said, you are not forced, but you feel you have a definite effect on the group and you also have to play your role.*
>
> *… everybody was really dedicated to get to the point and later everyone shared their experiences. To me it was … I have never experienced it like this in a group … never … nowhere … at school I was in the hostel. Even among those chaps I did not experience the same group cohesion and team spirit that I experienced during the weekend. To me it was shocking … really. I learned a lot from this weekend.*

In support of Glass and Benshoff (2002) and Weilbach (2008), the successful development of group effectiveness took place during the CBAP based on constantly focused group discussions and reflection sessions and on how it is related to the participant's daily life. For this study, this is the most important characteristic that distinguishes a CBAP from the EBWP. Throughout the study the participants accentuated this statement, as portrayed below:

> *… each activity's talking afterwards one could carry forward to each aspect of one's life. There one could … if one just thought a bit one could really make it applicable to all aspects.*
>
> *Uhm ... Drakensberg (EGWP) is much harder and it is constantly a challenge, where uhm ... and what I also enjoyed was ... uhm as I said just now, the reflection. Because you did something and then you reflected on it. In the mountains there is no time for reflection, you reflect at the end of the day, you are so tired, you cannot even remember everything that had happened to you.*
>
> *At TBI (CBAP) … I think growth rather came from the discussion afterwards. Here (EBWP) the discussion was afterwards … it also contributed to it, but it was more … it was not as strong, as good, as at TBI. At TBI an activity would not have done much, to my mind, the discussions did it. But here (EBWP), if one only did the activity (hike), it would already have done the work.*

Taking into consideration the above-mentioned and the aim of the study it has been found with certainty that the nature of the EBWP was more suitable for developing personal

effectiveness. As in the case of the study of Caulkins *et al.* (2006), the majority of participants (96%) of the present study confirmed this statement by mentioning that its unstructured nature, coupled with the isolation the wilderness presents, mainly led to the participants viewing the EBWP to be a program more suitable for personal development.

> *You are not constantly dependent on a group … I think one is more on a survival of yourself … one wants to survive, and one is focused on oneself … uhm … in a lesser degree also on the group but more on yourself.*

> *There was that introspection yes, but it is in no way a continuous thing as in the mountains (EBWP). There was that ... there the whole time you think only of yourself. Here (CBAP) you could only depend on yourself in terms of something … it is basically just parts of yourself. It is in no way you as a total image.*

Due to the extreme nature of the wilderness environment the participants are forced to function as close social units. Everything a person experiences (e.g. physical climaxes, therapy or personal growth) is experienced in connection with or with the support of others. Challenges such as navigation, preparing food, river crossing, campsite selection, as well as many other things urge cooperation and the effective use of one another's strong points (Kimball & Bacon, 1993). Coupled with this, Breunig *et al.* (2008) found that "sense of place" and the opportunity to break away also contributes to a feeling of intimacy and group cohesion. "Sense of place" is, according to Borrie and Birzell (2001), the value an individual attaches to a place. With reference to the wilderness, Cooley (1998) and Pryor (2003) believe that when someone competes with it, finds his way in it, starts feeling comfortable in it and feels safe, a relationship develops with the "place". In this respect, the opinion of one of the respondents was:

> *... it is the environment that does it to you, that gives you that power, which gives you energy. And then also the environment in terms of the team … because like … to me it actually was cool that we did not get water there on the plateau, because it brought the team members nearer to each other. We knew we sat in a situation that can turn very dangerous. How are we going to handle it? Even when we boiled the water and everything, it is still a risk …we boiled it and everything, but it is still a risk to drink it. As a team as a whole we drank it. It is nearly as if we accepted, if you are going to drink it, I will drink … the same will happen to us all.*

Successful participation during the CBAP can only take place in group context, while the facilitator mainly leads the process of growth. Since the EBWP is less structured, it led to the participants themselves having to take responsibility for their growth process. Due to this, growth was of a more personal nature.

> *... I would say TBI (CBAP) ... the activities are very much directed ... A KA SO (activity) ... focus on that which is important ... the activities are directed at lessons of life, but if you come here (EBWP) it is sort of ... your own lessons of life you teach yourself ... you must initiate that way of thinking yourself ...*

> *At TBI (Team Building Institute - CBAP) it was ... here the activities and the lesson you learn from the activity and how you will apply it. Here (EBWP) you*

> *have to half … formulate … your own lesson of life and decide how you are going to apply it and how to go further.*

Earlier on it was mentioned that sequence effects were observed and that subjects who first participated in the CBAP also gave better evaluations of both programs than those who first participated in the EBWP. This tendency is attributed to the transfer effect that took place after conclusion of Test 1. This means that subjects who first participated in the CBAP developed social skills they could build on in the EBWP, whilst those who first participated in the EBWP could only acquire many of these skills later in the CBAP. The sustainability difference between the two programs can be seen in the fact that these variables in Group 2 (problem solving, cooperation between members, purposefulness, productivity, success experience, decision-making proficiency) were more or less the same during both opportunities, whilst it increased in most cases after the CBAP in Group 1 (Table 1). Although the EBWP can be applied successfully for group development, a better effect will be attained in combination with the CBAP. The finding led to the assumption that participation in the CBAP needs to take place prior to exposure to the EBWP. Ninety per cent (90%) of the participants confirmed this finding. To participants with little or no experience of the EBWP, the challenge might be too huge to function in a group. The advantage linked to this is that the CBAP lays the foundation for increasing success and development. This statement is illustrated by two of the respondents:

> *If we had been at TBI (CBAP) first and then at the wilderness, I think we would have supported each other more and motivated each other more, maybe ... because we had not yet completely learned the skills to be able to do it ...*

> *It is a too extreme environment to throw people who do not know one another into ... immediately it is a survivor type of thing ... you throw the people and they don't know each other at all ... At TBI (CBAP), it is a much more controlled environment …mush safer ... it is easier, I want to say, to open up yourself ... this (EBWP) ... yes... it is a more dangerous environment and if you do not know the people, do not trust them, the group development will not take place so easily.*

CONCLUSION

In contrast to what Greffrath *et al.* (2007) found, the conclusion is made with certainty that if significant group development is sought, a CBAP needs to be used. This finding was made because of a more effective research design (crossover design where all participants were exposed to both programs) with specific emphasis on a mixed methodology. For future comparison studies within the field of experiential learning, this approach cannot be over-accentuated. Active involvement nurtured by means of the activities, intensive social interaction, as well as the focused reflection sessions were the most important program components that led to significant group development. Although it came to the fore that the EBWP was more suitable for personal development, this type of program can be applied with success for group development, provided participation in a CBAP takes place prior to exposure to the EBWP. Due to the transfer effect, it is recommended, along with Clark *et al.* (2004), that future research focus more on the sustainability of these types of programs.

Coupled with this, the research focus on adventure experiential learning should shift to an approach that is of a more qualitative nature.

In conclusion it needs to be pointed out that the educational value of adventure learning cannot be understood or exposed unless the participant realises the implications thereof in his/her daily life.

NOTES

(1) As methodology, the concept *adventure experiential learning* is often also used in adventure therapy, wilderness therapy (Ewert *et al.*, 2001), therapeutic recreation (Beringer & Martin, 2003) and ropes course programs (Russell, 2001; Hatch & McCarthy, 2006).

(2) See: http://www.outwardbound.co.za

(3) See: http://www.team.co.za

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