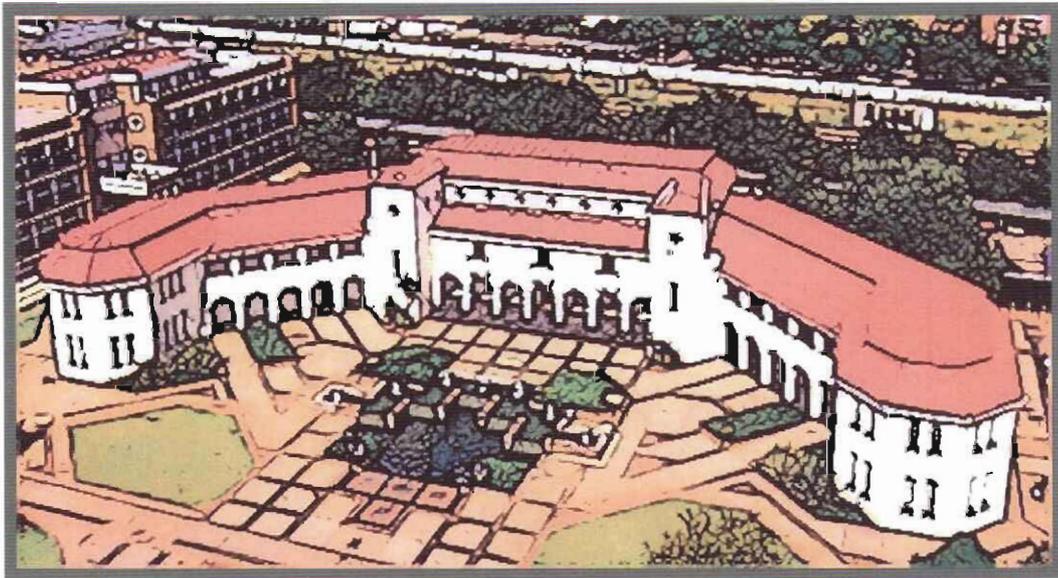


THE EFFECT OF PROCESSED ADVENTURE-BASED EXPERIENTIAL LEARNING ON PERSONAL EFFECTIVENESS OUTCOMES

J. Theron Weilbach
B.A. Honns.



Dissertation submitted in partial fulfilment of the requirements for the M.A. degree in the School of Biokinetics, Recreation and Sport Science in the Faculty of Health Sciences at the North-West University (Potchefstroom Campus)

Potchefstroom
November 2007

FOREWORD

The completion of this study was made possible through the help and support of family, colleagues and friends. I would like to express my sincere appreciation to the following:

- My Heavenly Father for His love and mercy in giving me the ability to complete this study.
- My parents. Without your help this study would not have been possible. Thanks for the support, understanding and love and also for the major part that you have played in me becoming what I am today.
- My fiancé and best friend, Anandi. Thanks for your support and encouragement throughout the study.
- My friends and colleagues at the Recreation Programme for all the fun and laughter we share. Working with you is always a pleasure.
- Dr. Charlé Meyer as supervisor, colleague and friend for the passion, enthusiasm and inspiring me to strive continuously for excellence.
- Dr. Andries Monyeki as co-supervisor for the professionalism and help especially with the articles. Your insight and contribution is sincerely appreciated.
- Dr. Suria Ellis for help with the statistical analysis.
- Prof. Dawie Malan, Director of the School of Biokinetics, Recreation and Sport Science, for the financial support that made this study possible.
- Beyond Adventure for their help and the opportunity to use their facilities .
- Prof. Lesley Greyvenstein for the language editing.

The opinions expressed in this study and the conclusions made are those of the author and are not in any way attributed to the abovementioned persons.

J. Theron Weilbach

November 2007

DECLARATION

The co-authors of the two articles which form part of this dissertation, Dr. Charlé Meyer (supervisor) and Dr. Andries Monyeki (co-supervisor), hereby give permission to the candidate, Mr. J. Theron Weilbach to include the two articles as part of a Masters dissertation. The contribution (advisory and supportive) of these two co-authors was kept within reasonable limits, thereby enabling the candidate to submit this dissertation for examination purposes. The dissertation, therefore, serves as partial fulfillment of the requirements for the M.A. degree in Recreation within the School of Biokinetics, Recreation and Sport Science in the Faculty of Health Sciences at the Potchefstroom Campus of the North-West University.

Dr. Charlé du P. Meyer
Supervisor and co-author

Dr. Andries Monyeki
Co-supervisor and co-author

SUMMARY

Limited scientific research regarding the effectiveness of Adventure-Based Experiential Learning (AEL) as an instrument to develop personal effectiveness exists. Furthermore, little attention have been given to factors that influence the effectiveness of these programmes. As a result the purpose of this study was twofold. Firstly the study aimed to determine whether AEL is effective in improving the personal effectiveness of participants scientifically. The Review of Personal Effectiveness with Locus of Control (Richards et al., 2002) was used to determine the personal effectiveness of participants. For the first article 23 adolescents currently enrolled in a post-matric development centre were studied. The study consisted of an experimental (n=12) and control group (n=11). The experimental group participated in a five day low risk AEL programme in an urban setting. Pre-post test effect sizes showed that the experimental group experienced significant ($d \approx 0.80$) development in four areas and medium ($d \approx 0.50$) development in nine areas of personal development, compared to one medium effect size for the control group. Secondly, the study investigated whether a processed AEL programme will produce higher short-term outcomes in terms of personal effectiveness than a non-processed programme. For the second article a processed experimental group (n=12), a non-processed experimental group (n=12) and a control group (n=11) were studied. The experimental groups participated in identical five day low risk AEL programmes, with one group receiving group processing after each activity while the other experimental group did not. Pre-post test effect sizes for the processed experimental group indicated significant improvements ($d \approx 0.80$) in four constructs and medium improvements ($d \approx 0.50$) in nine constructs. The non-processed experimental group achieved significant improvements ($d \approx 0.80$) in one construct and medium improvements ($d \approx 0.50$) in two constructs. Results indicate the importance of processing for the attainment of AEL programme outcomes. Research into the effect of AEL design and duration as well as the amount and type of processing on outcomes is recommended.

Key words: Adventure-based experiential learning; personal effectiveness; processing; programme design.

OPSOMMING

Beperkte wetenskaplike navorsing rakende die effektiwiteit van Avontuurgerigte Ervaringsleer (AEL) as instrument vir die ontwikkeling van persoonlike effektiwiteit is tans beskikbaar. Verder skenk navorsers weinig aandag aan die faktore wat die effektiwiteit van hierdie programme beïnvloed. As gevolg hiervan is die doel van die studie tweeledig. Eerstens poog die studie om wetenskaplik te bepaal of AEL effektief is in die verbetering van persoonlike effektiwiteit van deelnemers. Die "Review of Personal Effectiveness with Locus of Control" (Richards et al., 2002) is gebruik om die persoonlike effektiwiteit van deelnemers te bepaal. Vir die eerste artikel is 23 adolessente, wat tans by 'n post-matriek ontwikkelingsentrum ingeskryf is, bestudeer. Die studie het bestaan uit 'n kontrole- (n=11) en 'n eksperimentele groep (n=12). Die eksperimentele groep het deelgeneem aan 'n vyf dag lange lae risiko program in 'n stedelike gebied. Voor-natoets effekgroottes dui dat die eksperimentele groep betekenisvolle ($d \approx 0.8$) ontwikkeling in vier areas en medium ($d \approx 0.5$) ontwikkeling in nege areas van persoonlike effektiwiteit ondervind het in vergelyking met een medium grootte ontwikkeling vir die kontrole groep. Tweedens het die studie ondersoek of 'n geprosesseerde AEL hoër korttermyn uitkomst in terme van persoonlike effektiwiteit as 'n ongeprosesseerde program tot gevolg het. Vir die tweede artikel is 'n geprosesseerde eksperimentele groep (n=12), 'n ongeprosesseerde eksperimentele groep (n=12) en 'n kontrole groep (n=11) bestudeer. Beide eksperimentele groepe het aan identiese vyf dag lange lae risiko AEL programme deelgeneem waartydens die een groep prosessering na elke aktiwiteit ontvang het en die ander eksperimentele groep nie. Voor-natoets effekgroottes vir die geprosesseerde groep dui op betekenisvolle ($d \approx 0.8$) veranderinge in vier konstrunkte en medium veranderinge ($d \approx 0.5$) in nege konstrunkte. Die ongeprosesseerde eksperimentele groep het betekenisvolle verandering vir een konstruk en medium verandering vir twee konstrunkte getoon. Resultate beklemtoon die belangrikheid van prosessering vir die bereiking van AEL program uitkomst. Navorsing rakende die effek van AEL ontwerp en duur, sowel as die hoeveelheid en tipe prosessering, op uitkomst word aanbeveel.

Sleutel terme: Avontuurgerigte ervaringsleer; persoonlike effektiwiteit; prosessering; program ontwerp.

TABLE OF CONTENTS

▪ Foreword	i
▪ Declaration	ii
▪ Summary	iii
▪ Opsomming	iv
▪ Table of contents	v
▪ List of figures	viii
▪ List of tables	ix
▪ Definitions of terms	x

Chapter 1

PROBLEM STATEMENT AND PURPOSES OF THE STUDY

Contents	1
1.1. Problem statement	1
1.2. Objectives	4
1.3. Hypothesis	4
1.4. Structure of Dissertation	4
1.5. References	5

Chapter 2

CONCEPTS AND FOUNDATIONS OF AEL: A THEORETICAL OVERVIEW

Contents	9
2.1. Introduction	9
2.2. A theoretical analysis of adventure	10
2.2.1. An introduction to the concept of adventure	10
2.2.2. A definition of adventure	11
2.2.3. Constructs of adventure	11
2.2.4. Summary	16
2.3. AEL and the development of personal effectiveness	16

2.3.1. Personal abilities	17
2.3.2. Social abilities	18
2.3.3. Organizational skills	19
2.3.4. Locus of control	20
2.4. Experiential learning	20
2.4.1. Experiential learning: A definition	21
2.4.2. The methodology of experiential learning	21
2.4.3. The importance of experiential learning	24
2.4.4. Summary	25
2.5. AEL programme design: The Accountability Approach	25
2.5.1. Comprehensive and specific programme design	26
2.5.2. Summary	36
2.6. Conclusion	36
2.7. References	37

Chapter 3

ARTICLE 1: The effect of adventure-based experiential learning on personal effectiveness of adolescents

▪ Article and author information	47
▪ Abstract	48
▪ Introduction	49
▪ Methods	50
▪ Participants	50
▪ Instruments and procedures	51
▪ Statistical analysis of data	52
▪ Results	52
▪ Discussion	55
▪ Conclusion	57
▪ References	57

Chapter 4

ARTICLE 2: The effect of processing on the personal effectiveness outcomes of adventure-based experiential learning programmes for adolescents

▪ Article and author information	60
▪ Abstract	61
▪ Introduction	62
▪ Methods	64
▪ Participants	64
▪ Instruments and procedures	64
▪ Statistical analysis of data	65
▪ Results	66
▪ Discussion	70
▪ Conclusion	71
▪ References	71

Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Contents	74
5.1. Summary	74
5.2. Conclusions	75
5.3. Recommendations	76
5.4. References	77

APPENDIX A

Guideline for contributors: African Journal for Physican, Health Education, Recreation and Dance	78
---	----

APPENDIX B

Review of Personal Effectiveness with Locus of Control (ROPELOC)	79
--	----

LIST OF FIGURES

CHAPTER 1

- Figure 2.1: The relationship between Challenge and Ability 16
- Figure 2.2: Experiential Learning Model (Kolb, 1984) 23
- Figure 2.3: The programme design model (adapted from Peterson and Stumbo, 2000:107-108) 28
- Figure 2.4: The Outdoor Development Matrix (Dainty & Lucas, 1992:113) 29

CHAPTER 3

- Figure 1: Demographic distribution of the total research group by gender 52

LIST OF TABLES

CHAPTER 2

Table 2.1:	Six generations of facilitation (Adapted from Priest & Gass, 1997:178)	33
------------	--	----

CHAPTER 3

Table 1:	Effect sizes on the pre-test scores of the experimental and control groups	53
----------	--	----

Table 2:	Effect sizes between the pre-test and post-test scores of the experimental and control groups respectively	53
----------	--	----

Table 3:	Inter-group effect of the AEL programme by means of effect sizes on the difference between pre-test and post-test scores of the experimental and control groups	54
----------	---	----

Table 4:	Effect sizes for the post-test scores of the two groups, controlling for any pre-test differences	55
----------	---	----

CHAPTER 4

Table 1:	Effect sizes on the pre-test scores of the experimental and control groups	66
----------	--	----

Table 2:	Effect sizes between the pre-test and post-test scores of the experimental and control groups respectively	67
----------	--	----

Table 3:	The inter-group differences in terms of effect sizes for the pre-post test scores of the three groups	68
----------	---	----

Table 4:	Effect sizes of the post-test scores for the groups, controlling for pre-test score differences	69
----------	---	----

DEFINITIONS OF TERMS

Adventure-based experiential learning (AEL): AEL is an umbrella term for all experiential programmes that utilise adventure activities to achieve programme outcomes. These programmes can range from low-risk group activities in urban settings to expeditions into unknown wilderness setting.

Adventure: For the purpose of this study adventure is not seen as daring or dangerous activities. According to the literature, adventure is a state of mind and is, therefore, not always outwardly evident. An adventure experience is created when a person harbours doubt about his/her ability to complete a task at hand successfully and as a result, is uncertain about the outcomes of the task.

Experiential Learning: Experiential learning is a term used to describe a process during which participants are actively involved in creating knowledge from experiences. Although various experiential learning theories exist, for the purpose of this study the popular experiential learning model of Kolb (1984) will be used as theoretical foundation. The proposed model consists of four stages namely 1) concrete experience, 2) observation and reflection, 3) abstract conceptualisation and 4) active experimentation.

Personal Effectiveness: Personal effectiveness (see Appendix B) refers to key actions and behaviours that indicate a person's effectiveness in a variety of life areas. According to Richards *et al.* (2002:2), personal effectiveness can be divided into three main areas, namely personal abilities and beliefs, social abilities and organisational skills. For the purpose of this study, locus of control will also be regarded as an area of personal effectiveness.

Accountability approach: The accountability approach, as suggested by Peterson and Stumbo (2000:60) provides a systematic approach to programme planning. The basis of accountability is that programme providers are held responsible for the design and delivery of AEL services that best meet client needs and move clients toward predetermined outcomes in the most timely, efficient and effective manner possible (Peterson & Stumbo, 2000:60).

Processing (sometimes also referred to as facilitation): For the purpose of this study processing is defined as the act of conducting verbal discussions prior to, or after, an activity with the aim of encouraging participants to implement the experiential learning model, focussing on what will, or has been, learned from the experience.

1 PROBLEM STATEMENT AND PURPOSES OF THE STUDY

- 1.1. Problem Statement
- 1.2. Objectives
- 1.3. Hypothesis
- 1.4. Structure of the Dissertation
- 1.5. References

1.1. PROBLEM STATEMENT

Despite the growth in popularity for the use of adventure and outdoor programmes to develop the effectiveness of teams and individuals (Wagner & Campbell, 1994:4; DuFrene *et al.*, 1999:24; Ng, 2001:424; Williams *et al.*, 2003:45), little scientific evidence regarding the success of these programmes exists (Badger *et al.*, 1997:318; Burke & Collins, 2004:678). Though there are many terms for these programmes, such as experience-based training and development (EBTD), outdoor-adventure training, adventure learning (AL) and adventure-based experiential learning (AEL)¹ (Heunis & Vermeulen, 1997:4; DuFrene *et al.*, 1999:24; Miner, 1999:395; Meyer, 2003:353; Tesnear, 2004:3; Verster 2004:2), the one common factor in all of these terms is the fact that they refer to programmes that use adventure and experiential learning to develop the effectiveness of individuals and teams (Miner, 1999:396). Central to the idea of AEL is a set of experiential learning activities that is carefully sequenced, designed and integrated to facilitate positive change in participant behaviour and also increase their personal effectiveness (McEvoy & Buller, 1997:209). Richards *et al.* (2002:2) state that personal effectiveness can mainly be divided into three categories, namely personal abilities and beliefs (Self-confidence, self-efficacy, stress management and open thinking), social abilities (Social effectiveness, cooperative teamwork and leadership ability) and organisational skills (Time management, quality seeking and coping with change). As AEL contributes to

¹ Throughout the text the term Adventure-Based Experiential Learning will be referred to as AEL

improvements in leadership, problem solving, decision-making, increased self-esteem, increased self-efficacy, development of an internal locus of control, improved time management and communication (McEvoy & Cragun, 1997:20; Ng, 2001:424; Williams *et al.*, 2003:45), it is clear that AEL focuses on the development of personal effectiveness of participants. According to Williams *et al.* (2003:45), these competencies can be seen as the keys to success in life.

During AEL programmes personal growth is achieved by placing participants in problematic experiences that involve a combination of senses, emotions, physical effort and cognition and require total intellectual and emotional engagement (Cason & Gillis, 1994:40; Carver, 1996:9; Wurdinger & Priest, 1999:189). By allowing participants to take part in such activities, a process of experiential learning (a process where people are actively involved in creating the learning) is promoted. According to Priest and Gass (1997:17), experiential learning can be defined as learning by doing certain activities and then reflecting on them. One significant difference between experiential learning and other forms of learning is the fact that experiential learning is not a product of learning, but a learning process that is implemented under appropriate circumstances (Priest & Gass, 1997:136).

A key ingredient in the success of experiential learning is processing of the experience. Processing (also called facilitation) can be seen as a deliberate attempt to enhance the quality of the learning experience and to assist clients to create lasting changes that are transferable to real life situations (Priest & Gass, 1997:174). To emphasise the role that processing plays in the success of a programme, DuFrene *et al.* (1999:26) state that even the most powerful learning experience fades when it is not processed to link the learning that took place with the reality of everyday situations. Priest (1996:4) laments the fact that a lack of processing competence prevents adventure programmers from delivering effective programmes. Skilled processing of experiences is extremely important as without the correct processing of experiences it may be possible that participants may not be able to apply what they learned during the AEL to other environments successfully, such as their jobs, because these environments have characteristics that are very different from the environments in which AEL takes place (Beard, 1996:19; Priest & Gass, 1997:175).

In order to process experiences in such a way that they form a link with reality it is important to design the experiences so that the activities resemble certain aspects of everyday situations. Failure to do this can lead to questions about how the activities and the learning that took place during AEL can be applied in real life situations (Wagner & Campbell, 1994:5). From this literature it can, therefore, be argued that processing is an important factor that influences the outcomes of an AEL programme.

Unfortunately, scientific knowledge of factors that determine the achievement of programme outcomes is limited as little attention has been paid to the mechanisms that lead to the achievement of outcomes (Hattie *et al.*, 1997:43; Rushmer, 1997:316). Therefore, it is important to look at the various aspects of a programme to determine why certain programmes are successful and others not. Furthermore, according to Priest (1999:309), it is unfortunate that "...adventure programming has failed to create a unique body of knowledge. Therefore, adventure programming sits on the fringe, unable to claim that it does much good". This statement is echoed throughout the literature where researchers claim that apart from anecdotal accounts from participants of AEL, few scientific studies exist to prove that AEL is indeed effective in reaching the desired outcomes.

Based on the concerns of Hattie *et al.* (1997:43) and Rushmer (1997:316) regarding lack of research on specific aspects that make AEL effective and the argument of Priest (1999:309) that little evidence exists to support claims about the effectiveness of AEL, the purpose of this study is to answer the following research questions:

1. Is adventure-based experiential learning effective in improving the personal effectiveness of participants?
2. Will a processed adventure-based experiential learning programme produce higher short-term outcomes in terms of participants' personal effectiveness than a non-processed programme?

Results from this study will firstly help improve the practice of adventure programming by adding to the body of scientific knowledge regarding the effectiveness of adventure-based experiential learning programmes. Secondly, by focusing on the effect that one programme component, namely processing, has on the

outcomes of adventure-based experiential learning programmes, knowledge will be gained on how programme outcomes are achieved.

1.2. OBJECTIVES

The objectives of this study are:

- 1.2.1. To determine whether adventure-based experiential learning is effective in improving the personal effectiveness of participants.
- 1.2.2. To determine whether a processed adventure-based experiential learning programme will produce higher short-term outcomes in terms of participants' personal effectiveness than a non-processed programme.

1.3. HYPOTHESIS

This study is based on the hypotheses that:

- 1.3.1. Adventure-based experiential learning is effective in improving the personal effectiveness of participants.
- 1.3.2. A processed adventure-based experiential learning programme will produce higher short-term outcomes in terms of participants' personal effectiveness than a non-processed programme.

1.4. STRUCTURE OF DISSERTATION

The dissertation will be submitted in article format and will be structured as follows:

- Chapter 1 consists of the problem statement, purpose of the study and the hypotheses thereof.
- Chapter 2 is a literature review on the concepts and theoretical foundations of adventure-based experiential learning. This literature review will be used to

construct the problem statement for each of the two articles (Chapter 3 and 4). A source list is presented at the end of the chapter according to the guidelines of the North-West University.

- Chapter 3 is a research article titled *The effect of adventure-based experiential learning on personal effectiveness of adolescents*. This article will be submitted for publication in the “*African Journal for Physical, Health Education, Recreation and Dance*”. The article is hereby included according to the specific guidelines of the journal. The instructions for authors are included as Appendix A.
- Chapter 4 is a research article titled *The effect of processing on the personal effectiveness outcomes of adventure-based experiential learning programmes for adolescents*. This article will be submitted for publication in the “*African Journal for Physical, Health Education, Recreation and Dance*”. The article is hereby included according to the specific guidelines of the journal. The instructions for authors are included as Appendix A.
- Chapter 5 consist of a brief summary, followed by conclusions drawn from this study and the recommendations and implications for further studies on this topic. A source list is presented at the end of the chapter according to the guidelines of the North-West University.

1.5. REFERENCES

BADGER, B., SADLER-SMITH, E. & MICHIE, E. 1997. Outdoor management and development: use and evaluation. *Journal of European industrial training*, 21(9):318-325.

BEARD, C. 1996. Environmental training: emerging products. *Industrial and commercial training*, 28(5):18-23.

BURKE, V. & COLLINS, D. 2004. Optimising skills transfer via outdoor management development: part 1: the providers' perspective. *Journal of management development*, 23(7):678-697, Jul.

CARVER, R. 1996. Theory and practice: a framework for thinking about experiential education. *Journal of experiential education*, 19(1):8-13, May.

CASON, D. & GILLIS, H.L. 1994. Meta-analysis of outdoor adventure programming with adolescents. *Journal of experiential education*, 17(1):40-47, May.

DuFRENE, D.D., SHARBROUGH, W., CLIPSON, T. & McCALL, M. 1999. Bringing outdoor challenge education inside the business communication classroom. *Business communication quarterly*, 62(3):24-36, Sep.

HATTIE, J.A., MARSH, H.W., NEILL, J.T. & RICHARDS, G.E. 1997. Adventure education and Outward Bound: out-of-class experiences that make a lasting difference. *Review of educational research*, 67:43-83.

HEUNIS, C. & VERMEULEN, E. 1997. Encompassing AEL: a comprehensive guide to facilitating adventure-related experiential learning. Module 1: the nature of adventure-related experiential learning. s.l.: Corporate Experiential Learning. 8 p.

McEVOY, G.M. & CRAGUN, J.R. 1997. Using outdoor training to develop and accomplish organizational vision. *Human resource planning*, 20(30):20-28.

McEVOY, G.M. & BULLER, P.F. 1997. The power of outdoor management development. *Journal of management development*, 16(3):208-217.

MEYER, J.P. 2003. Four territories of experience: a developmental action inquiry approach to outdoor adventure experiential learning. *Academy of management learning and education*, 2(4):352-363.

MINER, T. 1999. Adventure in the workplace. (In Miles, J. & Priest, M.A., eds. *Adventure programming*. State College, Pa.: Venture. p. 395-401.)

NG, A.H. 2001. Adventure learning influence of collectivism on team and organizational attitudinal changes. *Journal of management development*, 20(5):424-440.

PRIEST, S. 1996. A research summary for corporate adventure training (CAT) and experience-based training and development. (*In* Coalition for education in the outdoors research symposium Proceedings: 3rd, Bradford Woods, Ind. 12-14 January. p. 63-76.)

PRIEST, S. 1999. Research in adventure programming. (*In* Miles, J. & Priest, M.A., eds. Adventure programming. State College, Pa.: Venture. p. 309-317.)

PRIEST, S. & GASS, M.A. 1997. Effective leadership in adventure programming. Champaign, Ill: Human Kinetics. 316 p.

RICHARDS, G.E., ELLIS, L.A. & NEILL, J.T. 2002. The ROPELOC: review of personal effectiveness and locus of control: a comprehensive instrument for reviewing life effectiveness. Paper presented at Self Concept Research: Driving international research agendas, 6-8 August 2002, Sydney.

<http://www.wilderdom.com/abstracts/RichardsEllisNeill2002ROPELOCComprehensiveInstrumentReviewingPersonalEffectiveness.htm> Date of access 29 Nov. 2004.

RUSHMER, R. 1997. What happens to the team during teambuilding? Examining the change process that helps to build a team. *Journal of management development*, 16(5/6):316-327.

TESNEAR, S. 2004. Die invloed van 'n Avontuurgerigte ervaringsleerprogram op die persoonlike funksionering van jeugdige. Potchefstroom: NWU. (Dissertation – M.A.) 163 p.

VERSTER, Y. 2004. Die impak van 'n avontuurgerigte ervaringsleerprogram op die selfpersepsie van jeugdige. Potchefstroom: NWU. (Dissertation – M.A.) 143 p.

WAGNER, R.J. & CAMPBELL, J. 1994. Outdoor-based experiential training: improving transfer of training using virtual reality. *Journal of management development*, 13(7):4-11.

WILLIAMS, S.D., GRAHAM, T.S. & BAKER, B. 2003. Evaluating outdoor experiential training for leadership and team building. *Journal of management development*, 22(1):45-59.

WURDINGER, S.D. & PRIEST, S. 1999. Integrating theory and application in experiential learning. (In Miles, J. & Priest, M.A., eds. *Adventure programming*. State College, Pa.: Venture. p. 187-192.)

2 CONCEPTS AND FOUNDATIONS OF AEL: A THEORETICAL REVIEW

2.1. Introduction

2.2. A theoretical analysis of adventure

2.3. AEL and the development of personal effectiveness

2.4. Experiential Learning

2.5. AEL programme design: The accountability approach

2.6. Conclusion

2.7. References

2.1. INTRODUCTION

The personal competencies of individuals, such as leadership, problem solving, trust and communication, are believed to be key elements for success (Williams *et al.*, 2003:45). In order to improve the personal effectiveness of individuals, training programmes that use adventure and experiential learning activities have become an increasingly popular method of achieving desired developmental outcomes (Burke & Collins, 1998:136; DuFrene *et al.*, 1999:24; Ng, 2001:424; Williams *et al.*, 2003:45). Adventure-based Experiential Learning¹ is a form of learning that improves inter and intra personal skills. Interpersonal skills refer to skills such as teamwork, effective communication, increased trust in others, creative problem-solving, effective conflict resolution and leadership (Russel *et al.*, 1995:207; Herbert, 1998:204; Waltermire, 1999:1; Benson, 2000:7), while intrapersonal skills are self confidence, ability to take risks, increased self-concept, logical reasoning skills and the ability to reflect on experiences (Ebbeck & Gibbons, 1998:306; Herbert, 1998:202; Klint, 1999:164; Ewert, 2001:5, Gucker, 2001:1). Improvements in these skills are achieved by placing participants in unfamiliar and unusual situations that require physical and emotional engagement from participants and then allow for reflecting on these experiences to ensure that the learning that took place can be transferred to everyday

¹ Throughout the text the term Adventure-Based Experiential Learning will be referred to as AEL

lives (McEvoy & Buller, 1997:208; Ibbetson & Newell, 1999:58). It is suggested that the popularity and growth of these programmes can be contributed to the extremely positive response and feedback from participants who experienced such programmes (McEvoy & Buller, 1997:208), but unfortunately, other than the feedback given by the participants and anecdotal accounts, there are few reliable studies that investigated the effect of AEL on participants. From the review of available literature it became clear that there are two areas in the field of AEL that need further research. Firstly there is the need to determine whether AEL is in fact an effective training instrument. In this regard Priest (1999a:309) states "...adventure programming has failed to create a unique body of knowledge. Therefore, adventure programming sits on the fringe, unable to claim that it does much good". Secondly, there is a need to determine through which processes the outcomes of AEL are achieved as little attention has been paid to the mechanisms that lead to the achievement of outcomes (Hattie *et al.*, 1997:43; Nichols, 1999:101). In this chapter findings of available literature about AEL and important aspects for the successful planning and presentation of AEL will be reviewed and discussed. It is important to realize that, in order to achieve the maximum potential of AEL, all planning and design of programmes should be based on a solid theoretical foundation of adventure programming and experiential learning. As theoretical cornerstone of this study, the concepts adventure and experiential learning will be discussed.

2.2. A THEORETICAL ANALYSIS OF ADVENTURE

2.2.1. An introduction to the concept of adventure

The word adventure conjures up images of mountain treks or rafting expeditions on remote rivers (Heunis, 1997:45). Some people merely take part in adventurous activities (e.g. river rafting, bungee jumping) as a form of recreation or as an exhilarating experience while others use adventurous activities as an instrument for growth and development (Verster, 2004:22). From an AEL perspective it is important that adventurous activities are not used merely as a form of entertainment, but as a developmental tool that will assist in personal growth and development. In this regard a question that needs to be asked is whether these remote outdoor settings and

adrenalin filled activities are indeed necessary for adventure and growth to occur during AEL. The following part of this chapter will be dedicated to defining and analysing the concept of adventure and the role that it plays in AEL.

2.2.2. A definition of adventure

Heunis (1997:65) reasons that adventure is not an activity, but a state of mind reached through participation in any number of activities. This viewpoint is confirmed by Priest and Gass (1997:122) and Quinn (1999:149) who claim that adventure can be seen as a situation in which the following characteristics are present, a) there is an inherent risk present in the activity, b) the participant harbours doubt about the outcomes of the situation, and c) the participant experiences a degree of uncertainty about the adequacy of his/her ability to achieve the desired outcomes. These statements clearly illustrate that adventure does not have to be associated with dangerous activities in wild outdoor settings, but rather is influenced by a person's experience of an activity.

2.2.3. Constructs of adventure

Heunis (1997:61-96) and McKenzie (2000:20) argue that adventure is made up of various constructs that contribute to the experience of adventure and the consequent learning that occurs as a result. These constructs will now be discussed.

2.2.3.1. *Adventure as an experience*

As stated earlier in this chapter (see 2.2.2), a person experiences adventure during a situation with inherent risks, where the outcomes of the situation are uncertain and where the person harbours doubt about his abilities to reach the desired outcome. From this explanation it is clear that a person must be actively part of the experience and apply his/her abilities in the situation for adventure to exist. Priest (1999b:112) states that for adventure to occur, participation must be voluntarily and intrinsically motivated, together with the element of uncertainty and doubt. This unpredictability (uncertain outcome) of an activity contributes to a participant's impression of the activity, resulting in an influence on the experience of the participant (Heunis, 1997:66). It can, therefore, be argued that for adventure to occur, a person must *experience* a certain condition or state of mind. Adventure is not limited to activities with high physical risks in wild and dangerous environments. As pointed out by

Quinn (1999:149), adventure is not always outwardly evident but often engages the spiritual, emotional and intellectual areas of oneself, leading to a *feeling* of adventure. Heunis (1997:65) clearly points out that adventure is a state of mind, therefore, it is referred to as an adventure experience.

2.2.3.2. Reflection

Because participation in an adventure must be voluntarily and intrinsically motivated, it is possible that the intrinsic motivation for participation can differ from person to person. A person can participate in an adventure experience merely for the thrill and excitement, while another can optimise the adventure experience by learning and growing through it (Heunis, 1997:63). In the light of this study, the focus will be on encouraging participants to optimise the adventure experience through growth and learning (Priest & Gass, 1997:17; Priest, 1999b:112). The key to learning from adventure experience is reflection (Cusins, 1995:4; Heunis, 1997:63) which is achieved through processing the experience. This important construct of adventure will be discussed in detail at a later stage in this chapter (see 2.5.1.4).

2.2.3.3. Dissonance and eustress

Adventure activities place participants in unfamiliar or novel situations that create a state of dissonance (a state where there is a difference between the current state participants find themselves in and the desired future) (Priest & Gass, 1997:136; McKenzie, 2000:20). According to the literature (Dainty & Lucas, 1992:107; Priest & Gass, 1997:136; Ng, 2002:425), the placement of participants in an unfamiliar situation is beneficial as it enables participants to gain new insight and perspectives on the familiar environments they come from. In the case of AEL, the participants can no longer rely on learned organisational behaviour or hierarchical structures but must use openness and interdependence to complete the activity successfully and overcome the state of dissonance. Secondly, properly planned adventure activities create, through dissonance, a constructive level of anxiety, also known as eustress within the participants (McKenzie, 2000:20). Eustress can be described as anything viewed as desirable or pleasurable but at the same time forces one into changing in some way. According to Priest and Gass (1997:138), this eustress “motivates clients to use problem-solving abilities in a functional way, such as trust, cooperation and communication to accomplish tasks in adventure experiences”.

2.2.3.4. Problem-solving

Verster (2004:34) stresses the importance of problem-solving as a construct of adventure. To start with, it is important to note that it is not adventure experiences that cause change in a group or individual (Priest, 1999b:112). Well planned adventure activities create eustress by placing participants in problematic situations that require total intellectual and emotional engagement, highlighting the need for change within individuals and the group and, therefore, stimulating functional problem-solving (Priest & Gass, 1997:138; Wurdinger & Priest, 1999:189). During adventure experiences the problem-solving process is experienced by participants, resulting in enhanced problem-solving skills that can be applied in other areas of life (Verster, 2004:34).

2.2.3.5. Risk and Adventure

Risk is used during AEL to create situations that foster personal development that enable participants to function effectively in the workplace and everyday life (Miner, 1999:396). According to various authors (Priest & Gass, 1997:122; Davis-Berman & Berman 2002:305), it is because of the inherent risk associated with the AEL activities that these programmes are so popular and successful. Risk can be defined as the potential to lose something of value, whether it is physical, mental, social or financial (Priest & Gass, 1997:19; Priest, 1999b:112). Nichols (2000:121), however, claims that instead of perceiving actual risk as having the potential for both positive (personal growth, etc.) and negative (injury, etc.) outcomes, people have an aversive reaction to risk, seeing it as something that should be avoided. In the same trend, Curtis (2002) maintains that there should be a balance between the risk of personal development (positive risk) and the risk of injury or loss (negative risk). In order to understand how it is that AEL can promote personal growth and development through risk, without risking life or limb, it is necessary to look at the kinds of risks involved in adventure programmes. During adventure activities there are three important risk factors that play a role in participants' experience of the activity. Firstly there is real risk, which is the true potential for loss (the real chances of serious injury or death). To minimize the likelihood of accidents, appropriate risk management strategies are implemented. Secondly, there is perceived risk, which is the participant's perception of the risk (Priest, 1999b:113; Davis-Berman & Berman, 2002:306). Novices may, because of a lack of knowledge about a certain activity, perceive the risk involved as

very high, while because of risk management strategies implemented by the instructors, the risk of any loss occurring may indeed be very small. It is maintained that, for ethical reasons, participants should be informed of all safety systems implemented during an adventure activity as not to deceive or mislead participants about the level of risk present during activities. Thirdly, and probably the most importantly, there is psychological risk, ranging from fear and anxiety, frustration and anger to caring and trust, present during AEL (McEvoy & Buller, 1997:210). Heunis (1997:83) states that because of the physical and psychological risk involved in AEL, clients should be intrinsically motivated to take part and do so voluntarily. During AEL participants are encouraged to take psychological risks, because these risks are linked to experiential learning (McEvoy & Buller, 1997:210). Schoel *et al.* (1988:131) suggest the use of a Challenge by Choice approach to participation in adventurous activities. Challenge by Choice offers the participants 1) a chance to try a potentially difficult or frightening challenge in an atmosphere of support and caring, 2) the opportunity to stop with an activity when pressure to perform or self-doubt becomes too strong, knowing that the opportunity for a further attempt will be available, 3) a chance to realize that it is not the results of one's performance that is important, but more significantly, the attempt, and 4) respect for other participants' choices (Schoel *et al.*, 1988:131). By implementing Challenge by Choice during AEL, participants are empowered to determine their own levels of participation without feeling forced into a challenge.

2.2.3.6. Challenge, participant abilities and the flow experience

At this stage it is important to investigate the relation between challenge, participant ability and participants' perception of risk. According to Heunis (1997:83), the perceived challenge of an activity is determined by the ability of the participant. This relationship between perceived levels of risk and participant ability levels play an important role in reaching the desired programme outcomes. Because participant experiences are influenced by both the challenge presented and their skill level it is possible that three conditions can be reached during an activity (see Figure 2.1).

Condition 1: Very high challenge and very low ability

According to Csikszentmihalyi and Csikszentmihalyi (1999:157) and Priest (1999c:159), when a challenge presented to a participant is relatively greater than the

person's ability, a sense of frustration might occur that will eventually result in anxiety and an inability to learn optimally from the experience. This could result in a misadventure. Misadventure causes an unhealthy level of dissonance, leading to the group or individual to lose sight of the goal and focus on personal discomfort (Burnett & Galloway, 2005:33) and, therefore, negatively impact on the outcome of the activity.

Condition 2: Very low challenge and very high ability

On the other hand, when a participant feels that his skill is greater than that needed to overcome the challenge, that person will feel progressively more bored, also undermining the learning potential of an experience (Csikszentmihalyi & Csikszentmihalyi, 1999:157; Priest, 1999c:159; Moneta, 2004:115).

Condition 3: Challenge equal to ability

The ideal to achieve during AEL is to create an opportunity for participants where the skills needed are matched by the difficulty of the challenge. These are situations where participants feel challenged but still in control, resulting in a *flow experience* where the participants are fully engaged in the activity (Csikszentmihalyi & Csikszentmihalyi, 1999:157; Priest, 1999c:159; Nichols, 1999:101). The flow experience is an important concept that helps with understanding the interaction between risk/challenge and personal ability, and how these influence the results of an activity. A flow experience is a state of mind, where the participants experience profound task and cognitive engagement, leading to positive feelings of control, intrinsic enjoyment and freedom from self-consciousness (Marsh & Jackson, 1999:344; Nichols, 2000:123; Moneta, 2004:115). Flow experiences are generated when a person feels that the task at hand is very challenging and that through his/her best efforts the necessary skill level will be achieved to face the challenge successfully (Custodero, 2002:4; Moneta, 2004:115). During this intense engagement in the activity the opportunity for learning is enhanced (Luckner & Nadler, 1997:47). Lastly, Priest and Gass (1997:44) argue that participants cannot learn unless they have an active role in the experience, suggesting that they should overcome the challenge by themselves, with the instructors only offering support and maintaining the safety of the participants.

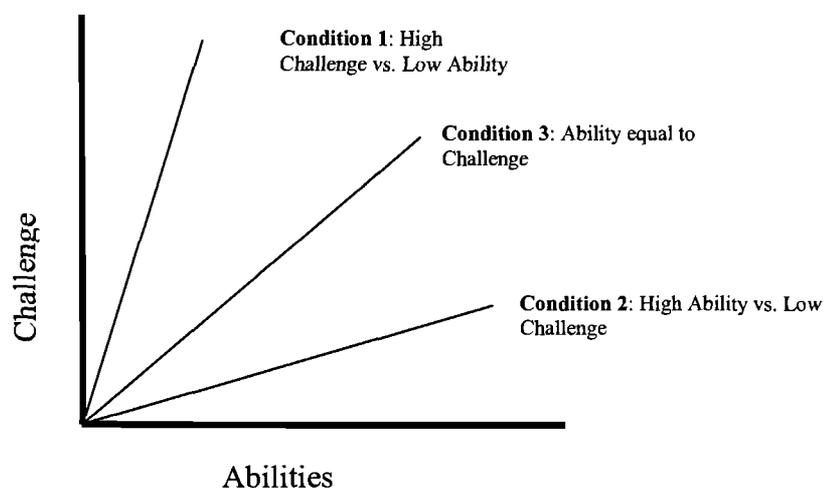


Figure 2.1: The relationship between Challenge and Ability

2.2.4. Summary

Although the word adventure conjures up images of expeditions into remote, dangerous and undiscovered settings, the literature points out that adventure is not bound to specific activities or even settings. In fact a person can experience adventure in an everyday setting without anybody noticing it. The reason for this is due to the fact that adventure is a state of mind. It is this state of mind that is of importance for AEL programmers as it is during this state of mind that growth and development occurs. The challenge for AEL programmers, therefore, lies in creating suitable and relevant adventure experiences conducive to learning and growth.

2.3. AEL AND THE DEVELOPMENT OF PERSONAL EFFECTIVENESS

Although most developmental adventure programmes, such as AEL, aim at increasing participants' personal effectiveness, the difficulty of the task lies in the fact that personal effectiveness is determined by more than just self-concept or some social or physical skill. According to Richards *et al.* (2002:2), personal effectiveness can be divided into three main areas, namely personal abilities and beliefs (self-confidence, self-efficacy, stress management, open thinking), social abilities (social effectiveness, cooperative teamwork, leadership ability) and organisational skills (time management, quality seeking, coping with change). Furthermore, locus of control and overall

effectiveness in all aspects of life are seen as important contributors to personal effectiveness. Outdoor or adventure programmes, such as AEL, have been proved by a number of studies to be successful in improving various elements of the personal effectiveness of participants (Hattie *et al.*, 1997:70; Neill & Richards, 1998:7; Neill & Dias, 2001:38). However, even though positive outcomes have been achieved, these outcomes must be transferred to everyday situations so that participants can generally be more effective in life. The following literature will briefly explain the different areas of personal effectiveness and motivate the importance and benefit of effectiveness in these areas.

2.3.1. Personal abilities

Self-confidence, according to Neill *et al.* (2001:9), can be seen as measures of an individual's general confidence of success in work and personal situations. Herbert (1998:202), Waltermire (1999:3), Benson (2000:4) and Gucker (2001:1) indicate that participation in adventure programmes improves this important area of personal effectiveness.

Self-efficacy on the other hand is a more specific measure of an individual's ability in specific situations (Vrugt & Koenis, 2002:594). Through the theory of self-efficacy a framework has been provided to understand individual behaviour and explain individual success, and has proved that self-efficacy has a positive effect on individual success, confidence, and future development (Propst & Koesler, 1998:321; Vrugt & Koenis, 2002:594). The benefit of high self-efficacy to individuals is due to the fact that these individuals have the ability to see difficult tasks as challenges to be conquered, while others might see the same tasks in a negative light (Vrugt & Koenis, 2002:594).

Stress management can be seen as an individual's ability to cope with stressful and uncertain situations. Stress has a detrimental effect on an individual's health contributing to headaches, high blood pressure, heart disease and strokes (Duvall, 2001:538), and it can be argued that effective stress management can reduce these symptoms, therefore, improving health. Hamilton and Cooper (2001:331) state that the negative effects of poorly managed stress can also lead to inefficiency and reduced performance. Poorly managed stress also contributes to less effective teamwork as

team members under stress focus more on personal goals than on the overall group goals. From this information it is clear that effective stress management is a component of personal effectiveness that is extremely important to the individual.

Open thinking can be defined as the extent to which an individual is able to modify his pattern of thinking based on new information being presented and act upon the ideas of others (Neill *et al.*, 2001:8). Studies by Itin (1995:5), Herbert (1998:204), Waltermire (1999:2) and Benson (2000:3) indicate that adventure programmes have a positive influence on the abilities of participants to analyse, think and creatively solve problems logically.

2.3.2. Social abilities

Social effectiveness refers to an individual's ability to function confidently and interact in social situations (Neill *et al.*, 2001:7; Sibthorp & Arthur-Banning, 2004:39). Williams *et al.* (2003:50) argue that effective communication, an element of social competence, between individuals in a team can improve productivity and quality. Another element of social competence is the ability to trust other individuals. Increased trust was found to be one of the outcomes effectively attained through participation in adventure activities (Waltermire, 1999:3; Benson, 2000:3; Ewert, 2001:4; Garst *et al.*, 2001:41). Williams *et al.* (2003:50) state that trust indirectly impacts on the performance of a team by making members more inclined to cooperate and pursue a common goal and affecting the intra-group processes that take place.

Cooperative teamwork refers to the ability to work effectively in a team and is often one of the primary outcomes of adventure programmes. Various researchers (Russell *et al.*, 1995:207; Benson, 2000:3; Ewert, 2001:4; Garst *et al.*, 2001:41) found that adventure programmes are effective in improving teamwork. Cooperative teamwork also leads to an increase in team cohesiveness. The increase in team cohesiveness results in improved quality and effectiveness in the group. In this regard Mullen and Copper (1994:213) argue that cohesiveness can enhance performance in groups when poor performance is a result of inadequate coordination between group members. Inadequate coordination between team members can also be caused by poor communication. Herbert (1998:204), Waltermire (1999:1) and Benson (2000:3) found that adventure programmes are successful in enhancing communication within

a group. According to Williams *et al.* (2003:51), higher cohesiveness can lead to lower team member absenteeism. It is, therefore, clear that cohesiveness, created through an improved ability to work within a team context, can lead to increased effectiveness in completing team tasks.

Leadership ability refers to an individual's ability to organise a group effectively when there is a situational need or opportunity for leadership (Sibthorp & Arthur-Banning, 2004:39; Neill *et al.*, 2001:9). In this regard Neill *et al.* (2001:9) state that a person who is capable of taking control of situations and motivating others to achieve common goals in harmonious and productive way, is likely to be more effective in general life. The development of leadership ability, therefore, is an important life skill that has a far-reaching effect on personal and business results. Waltermire (1999:1), Benson (2000:3) and Ewert (2001:5) contend that adventure programmes are successful in improving the leadership abilities of participants. Furthermore, research by Kirkpatrick and Locke (1996:47) indicates that leadership ability is positively related to task satisfaction, the effectiveness and the performance quality of followers. It is, therefore, clear that the behavioural change of improved leadership ability has an effect on the performance of followers through improved effectiveness and performance quality.

2.3.3. Organizational skills

According to Neill *et al.* (2001:8), *organisational skill* refers the ability of an individual to plan, organise and take action to ensure that tasks are successfully completed.

Time management refers to an individual's ability to plan and make efficient use of time (Neill *et al.*, 2001:7). According to Worth (2004:9), although people find it difficult to handle their workloads due to time constraints, the solution to coping with this problem is effective time management. Worth (2004:12) goes as far as arguing that a person's success in completing tasks is not determined by the amount of time available to perform the tasks, but the ability to organise time effectively. This ability is seen as a useful quality in both personal and professional life, with Worth (2004:23) stating that "organising time effectively is a critical skill for anyone who wants to succeed in the workplace".

Quality seeking refers to the effort an individual puts into achieving the best possible results. Measures of quality, according to Williams *et al.* (2003:54), include cost saving due to fewer defects and higher customer satisfaction and as a result increased repeat sales. From this information it is clear that employees with a high regard for quality are beneficial to organisational success.

According to Burnett and James (1994:14), an individual's ability to *cope with change* can be seen as an important skill in an era where change happens at a faster pace than ever before. Individuals who can cope effectively with change will have the skill required to "lead their teams into flexible, adaptable modes of working and enable their organisations to create healthy responses to the demands of the environment" (Burnett & James, 1994:14).

2.3.4. Locus of control

According to Adeyemi-Bello (2001:25), can be seen as "the extent to which individuals attribute events in their lives to actions and forces beyond their control". According to a literature review by Adeyemi-Bello (2001:25), it seems that individuals with an internal locus of control (individual who feels that he has control over events in his life) are more effective in life than individuals with an external locus of control (individual feels that the events in his life are the result of factors out of his control). It can, therefore, be stated that an internal locus of control is an important determinant of a person's effectiveness in various areas in life.

2.4. EXPERIENTIAL LEARNING

Previously in this chapter (see 2.2.1) it was noted that in the context of AEL, participants engage in adventure experiences in order to learn and develop as a result of participation. In order to understand the nature of learning through experience it is important to understand that the adventure component is not the sole focus of AEL (Heunis, 1997:117). In fact, the main focus should be on experiential learning, the art of learning through active participation in learning activities. In the following

sections experiential learning will be defined, analysed and its importance in AEL discussed.

2.4.1. Experiential Learning: A definition

Experiential learning can be described as a cyclical process during which experience plays a central role in a structured learning sequence (Andresen *et al.*, 2000:225; Greenaway, 2002). Based on this description experiential learning should never be restricted to the definition “learning through experience” as all learning necessarily involves experience of some sort, whether it is through reading a book or attending a lecture (Heunis, 1997:117). A distinction can be made between learning through experiences and experiential learning, as only experiential learning focuses on a learner centred, participative approach where learners are encouraged to analyse their experience through reflection, evaluation and construction and testing of new concepts (Boyatzis & Kolb, 1995:2; Wurdinger & Priest, 1999:189; Andresen *et al.*, 2000:225; Itin, 1999:91). The Association for Experiential Education formally defines experiential learning as “a process through which a learner constructs knowledge, skills and value from direct experience” (Luckmann, 1996:7). For the purpose of this study, the process referred to in the definition of experiential learning will be seen in the light of the experiential learning model of Kolb, the theory most utilised throughout the literature (Martin, 2001:26; Greenaway, 2002). This concept of experiential education plays an important role in AEL as it influences the planning of programme outcomes as well as the activities and processing that will be used during AEL.

2.4.2. The methodology of experiential learning

The methodology of experiential learning is based on the following principles that should, regardless of the activity used, be present for learning to take place (Heunis, 1997:118-120):

2.4.2.1. A combination of content and process

Content (theory), in this context, refers to the information necessary to cover a specific topic adequately. It implies that before engaging in experiential activities the skills, knowledge and topics relevant to the learning must be determined (Peterson & Stumbo, 2000:123). *Process* (experience) refers to the way in which the *content* will

be “discovered” and addressed. During AEL the *process* (experience) will consist of various adventure and processing activities that will stimulate the learning of the content (Peterson & Stumbo, 2000:124). Heunis (1997:119) warns that the process (experience) should not dominate the content (theory) but that care must be taken to find a balance between the two.

2.4.2.2. Absence of excessive facilitator judgement and interference

One of the reasons why experiential learning is so effective is due to the fact that the learners are themselves responsible for their learning. From a facilitator’s perspective it implies that facilitators create situations for participants to learn about themselves and others without the facilitator excessively judging, interfering or interpreting the learning for them, but rather guiding them, through attentive observation of the process and content, towards finding their own solutions and creating their own learning (Priest & Gass, 1997:227; Knapp, 1999:221; Martin, 2001:34).

2.4.2.3. Relevant content

The success of any experiential activity will be determined by the relevance of the learning content to the participant. Various authors (Cusins, 1995:3; Olsen, 1998:62; Thompson *et al.*, 2003:540) have cited that unless participants perceive the learning content as relevant they are unlikely to be engaged in the learning and the application of the learning in new situations.

2.4.2.4. The use of a learning cycle/model

Within the experiential education context various models are used to illustrate the process of experiential education, giving direction, purpose and flow to the experiential activity. Models from various authors exist, ranging from basic 2-stage models to advanced 5-stage models. One model that dominates the experiential theory literature and is most often used in the literature related to AEL is the experiential learning model of Kolb (1984). According to Kolb (1984:20), the intellectual origins of experiential learning can be traced to theories by Dewey, Lewin and Piaget. The experiential learning model of Kolb is conceptualised as a cycle of four elements (see Figure 2.2). Each element of the cycle should be present for comprehensive learning to occur. According to Kolb (1984:24), experiential learning takes place during four stages, namely:

- a) concrete experience
- b) observation and reflection
- c) formation of abstract concept and generalization
- d) testing the implication of the concept in new situations.

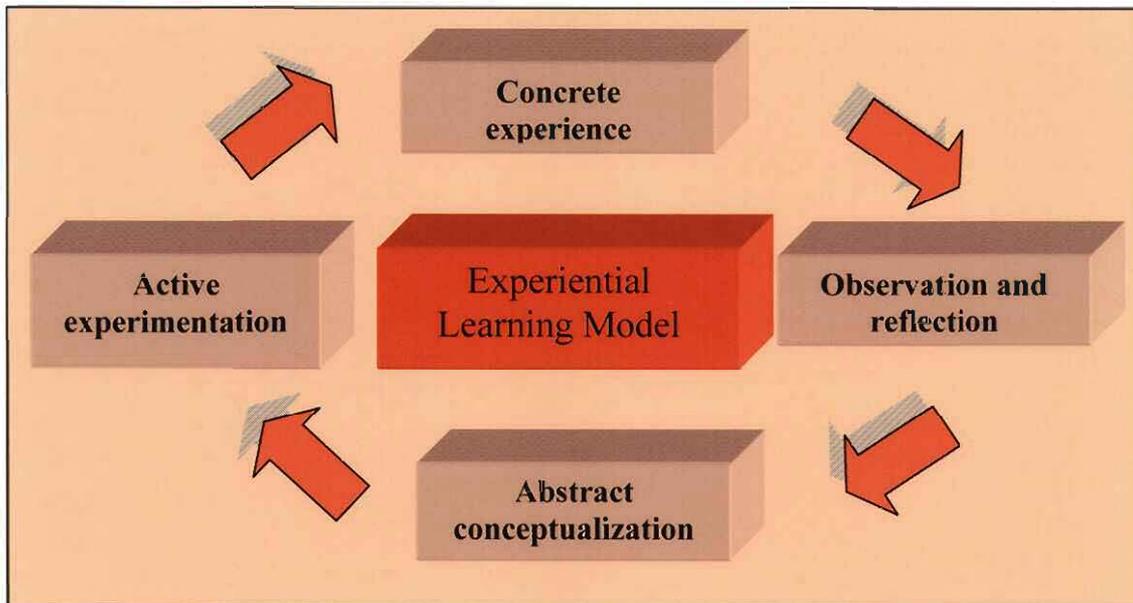


Figure 2.2. Experiential Learning Model (Kolb, 1984)

The **first stage** (concrete experience) of the experiential learning cycle takes place during participation in an activity, where the participants are physically and emotionally engaged in the activity. Although the participants are part of the experience, it does not necessarily mean that they are learning from the experience. According to Cusins (1995:4), the process of reflection turns an experience into a learning experience. It can, therefore, be argued that the experience turns into a learning experience during the **second stage** of the experiential learning process (observation and reflection), when the focus is on reflecting on the experience and gathering objective and subjective information about what happened, why it happened and what effect it had. Reflection during the experiential learning cycle is important as it serves as a condition to heighten awareness and creates motivation and need for change. Having gathered the information, during the **third stage** (formation of abstract concepts and generalization) it is now necessary to analyse this information,

identifying trends and patterns and establishing a framework or conceptual model of understanding. During the **fourth and final stage** (testing the implication of the new concept in a new situation), the learning from the experience becomes experiential learning, as the focus falls on applying the new framework or conceptual model during a new concrete experience in order to determine whether it has the desired outcomes or not (Cusins, 1995:4-6). Although the experiential learning cycle is now completed, it is important to note that during the testing of the new concept (stage 4), new concrete experiences occurred (stage 1), signifying the beginning of a new experiential learning cycle. Sullivan and Kolb (1995:8) and Williams *et al.* (2003:46) argue that, because the various stages of the experiential learning model are direct opposites (concrete experiences vs. abstract conceptualisation and active experimentation vs. reflective observation), training through experiential learning can accommodate a wide variety of learning styles. In this regard Sheehan and Kearns (1995:11) claim that the best results are achieved during a programme when participants show evidence of participating in all the stages of Kolb's model. From a programming perspective, in order to achieve the best results from the programme, the facilitator should encourage participants to engage actively in all the different stages of experiential learning. According to Sheehan and Kearns (1995:13) and McEvoy and Buller (1997:216), when used correctly, experiential learning empowers participants to assess their own learning and teaches participants to learn, resulting in continued learning even after the AEL.

2.4.3. The importance of experiential learning

As participants do not participate in AEL solely for the intrinsic motivational value that it offers but, more importantly, because of the educational and developmental value that it offers (Steyn, 2001:33), it is clear that this is an important ingredient in AEL programmes. The process of experiential learning can be seen as the vehicle that leads participants from participating in experiences to learning from their experiences. According to Meyer (2003:353), the basic theory behind experiential learning is the fact that, through active participation in learning experiences, there is different knowledge to be gained than through passive reception of information. This statement confirms Priest and Gass (1997:17) who suggest that the experiential learning that takes place during AEL is highly effective, as the participants learn best by being actively involved in the learning process. Reflecting on the way that AEL

uses the experiential learning cycle, combined with adventure activities in a small group context, it is clear that the experiential learning during AEL is highly effective as it leads to learning far beyond the scope of traditional passive learning methods. In fact, a study by Priest (1998?[in press])² found that organisational team building through a classroom programme improved teamwork from 45% before the programme to 55% after the programme. Compared to the results from the organisational team building through AEL that improved teamwork from 45% before the programme to 80% after the programme, and the fact that results from the AEL programme lasted significantly longer than the results from the classroom programme, it is clear that AEL can achieve far more in terms of understanding and training than conventional teaching (Holden, 1995:25). Probably the single most important predictor of successful training for learners is the ability of the training to sustain their interest, attention and motivation (McEvoy & Buller, 1997:216).

2.4.4. Summary

Experiential learning is a philosophical approach to learning, impelling AEL programmers to structure activities and experiences in such a way that learning is maximised, instead of leaving learning to chance (Luckner & Nadler, 1997:vxix). The effectiveness of experiential learning can be found in the fact that it motivates participants to take part actively and enjoy learning. It makes provision for various learning styles and finally instils a sense of ownership over what has been learned as participants are responsible for their own involvement in learning and determining their own degree of learning (Luckner & Nadler, 1997:3).

2.5. AEL PROGRAMME DESIGN: THE ACCOUNTABILITY APPROACH

The accountability approach for programme design is a therapeutic recreation tool proposed by Peterson and Stumbo (2000:60). From a programming perspective it is clear that this approach is just as applicable to AEL as it is to a therapeutic setting.

² This reference (for sources without a specified date of publication) is correct according to the guidelines of the North-West University.

Adapting the accountability approach to an AEL context implies that through this approach the programme providers are held responsible for the production and delivery of AEL services that best meet client needs and move clients toward predetermined outcomes in the most timely, efficient and effective manner possible (Peterson & Stumbo, 2000:60). As AEL clients invest both time and money into the training, AEL providers are accountable for ensuring they receive a return on their investment. By using the suggested approach, credibility for AEL as an effective developmental instrument can be gained.

2.5.1. Comprehensive and specific programme design (Macro phase)

Heunis (1997:136) and Miner (1999:397) argue that the AEL process can be divided into two parts, namely the macro phase that focuses on the overall programme structure, and the micro phase that focuses on achieving the desired outcomes by applying the experiential learning model to uniquely designed learning opportunities in the form of the individual activities being conducted.

Based on the proposed accountability approach, the Therapeutic Recreation Accountability Model (Peterson & Stumbo, 2000:107) will be adapted to facilitate and illustrate the process of programme design used in this study (see Figure.2.3).

2.5.1.1. Comprehensive Programme Planning Process

2.5.1.1.1. Analysis

During this phase of programme planning factors that will influence the structure and direction of the programme will be identified and analysed. A needs assessment of clients prior to the development of an AEL programme is probably the most important step in the macro process as it forms the foundation for the whole program. Stumbo and Peterson (2004:34) contend that all programmes in health and human services should be based on human clients' needs or deficits as it drives both the content of a programme and the process of delivery (see 2.4.2.1). Millholland (1995:55) rightly argues that, while the goal of AEL is to transform old behaviours into new work habits, the first step in the process should be to determine the need for training and identifying specific customer objectives. Data gathering through a thorough needs assessment ensures that the AEL programme will focus on specific outcomes, and will not use "hit or miss" strategies (Heunis, 1997:136). In this regard, Siebert (1995:59)

mentions that “even the best designed programmes can be quickly reduced to a useless state of irrelevance if the programmes do not meet the needs of the participants”.

2.5.1.1.2. Conceptualization

The first step in this phase is the writing of a clear and concise statement of purpose that forms the core around which the whole programme is developed. Based on the statement of purpose and the analysis of the needs of the group, goals and objectives that reflect the purpose are written (Peterson & Stumbo, 2000:88).

2.5.1.1.3. Investigation

This phase is concerned with investigating potential methods to translate the programme goals and objectives into operational programme components. Programme components are investigated in terms of sustainability and practicality that are based on the restrictions and resources within the programme (Peterson & Stumbo, 2000:93). There are various factors that should be taken into account when determining the programme components of the AEL, such as duration, monetary limitations, group size, logistical considerations and programme outcomes. All of these factors will determine the nature of the programme in terms of the setting (e.g. wilderness or centre-based) and the activities that will be used during the programme (Miner, 1999:397).

2.5.1.1.4. Determination

In this phase the specific programme components gathered during the investigation phase are evaluated and the components that will be used to achieve the desired programme goals and objectives are selected (Peterson & Stumbo, 2000:98).

2.5.1.2. Specific Programme Design Process

Whereas the Comprehensive Programme Planning Process is concerned with the overall structure and outcomes of the programme, the Specific Programme Design Process focuses on achieving these outcomes through writing specific programme goals, objectives, enabling objectives and performance objectives. Furthermore, the specific programme content and processes are determined specifically for the various individual goals and objectives (Peterson & Stumbo, 2000:109; Tesnear, 2004:51).

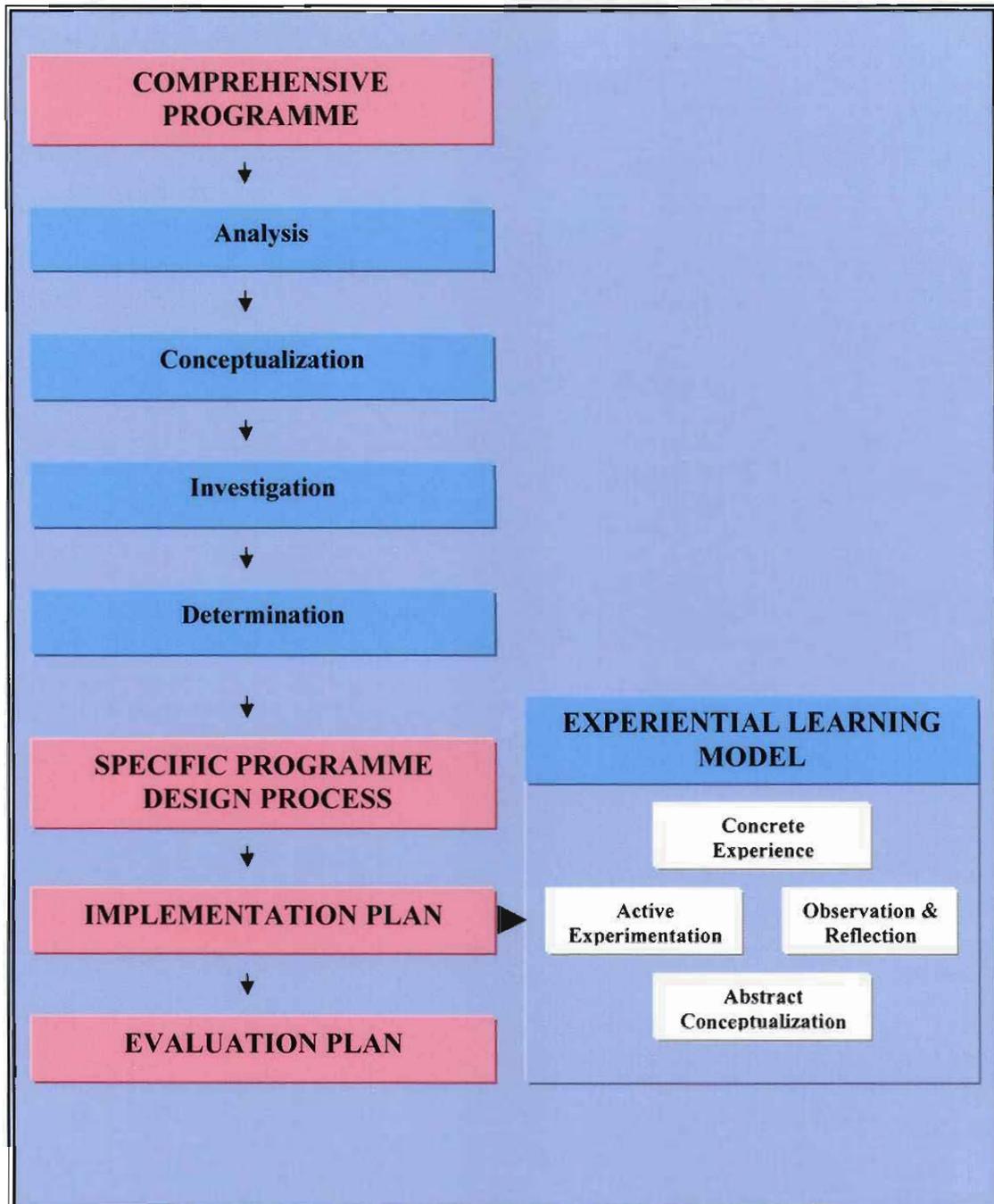


Figure 2.3. The programme design model (Adapted from Peterson & Stumbo, 2000:107-108)

According to a study by Dainty and Lucas (1992:108-113), in order to achieve desired outcomes, there should be a direct relationship between the activity used and the processing that accompany each activity. In this case processing refers to various techniques that can be used to enhance the learning from experiences (Priest & Gass, 1997:174) and will be discussed in detail (see 2.5.1.4). In their study Dainty and

Lucas (1992:108-113) determined that four types of outcomes could be achieved during AEL, namely fun and enjoyment, narrow skills (specific transfer), broad skills (non-specific transfer/metaphoric transfer) and awareness of self and others. In order to achieve these outcomes they categorised the activities and the processing methods used on different continuums. The activities used in AEL are placed on a continuum that ranges from tightly structured tasks (that have specific rules and a predetermined way of completing the activity) to loosely structured activities (that have various possible ways of completing the activity), while the processing methods are placed on a continuum that ranges from low intensity (general discussions) to high intensity (intense feedback on personal issues). The interaction between the activities, processing and outcomes is explained by means of the “Outdoor Development Matrix” (see Figure 2.4).

TASK	Tight	QUADRANT 2 NARROW SKILLS	QUADRANT 3 BROAD SKILLS
	Loose	QUADRANT 1 FUN/ ENJOYMENT	QUADRANT 4 SELF AND OTHER AWARENESS
		Low intensity	High intensity

PROCESSING

FIGURE 2.4. The Outdoor Development Matrix (Dainty & Lucas, 1992:113)

The importance of the Outdoor Development Matrix with regard to the specific programme planning process can be seen clearly as it gives the programmer a framework to determine the nature of the content (theory) and the process (experiences) to be used to achieve the desired outcomes of the programme.

2.5.1.3. Implementation plan

This phase can also be referred to as the micro phase of programme planning as proposed by Miner (1999:397) and is concerned with how positive participant change can be achieved during the individual activities, and how the experiential learning cycle can be implemented within each activity. This phase of the planning process is concerned with formulating implementation strategies for the various programme components. By utilizing a system approach in this phase it is stated that “a particular

programme, implemented in a particular manner, should produce the desired results” (Peterson & Stumbo, 2000:129). In this regard Stoltz (1995:17) and Heunis (1997:126) state that experiences usually take place naturally, but when experiences are used as instruments to promote learning and development, every learning experience should be adapted and carefully planned and applied based on each client’s needs and objectives. The implementation plan consists of two important components, the first being the sequence in which the activities will take place and the second being the specific implementation strategy of each activity.

2.5.1.3.1. Sequencing

Schoel *et al.* (1988:35) define sequencing as “paying attention to the order of activities so that the order is appropriate to the needs of the group”. According to Bisson (1999:210), activities should be presented in such an order that they lead the group through phases that foster group formation and familiarity, teamwork through intra and interpersonal skills and lastly, support and cohesion between team members. The importance of correct sequencing was confirmed by Priest (1997?[in review])³ who found that the use of wrong sequencing can have a detrimental effect on programme outcomes.

2.5.1.3.2. Implementation strategies

The foundation on which the micro phase is built is the concept of planned change events. These events refer to events that participants agreed to participate in, although they have not selected the events for themselves (Luckner & Nadler, 1997:51). Luckler and Nadler (1997:51) state that the events are “planned in that you (the leader) may think that this experience will benefit participants by helping them stretch to new areas where they may not go on their own”. In order to create planned change events successfully knowledge about current practices and research findings are needed. Research has shown that without careful consideration of implementation strategies programmes can have adverse effects on the participants. As example, a study by Ibbetson and Newell (1999:65) that made a comparison of competitive and non-competitive AEL programmes found that participants in the non-competitive programme reported significantly greater increase in personal benefits due to the

³ This reference (for sources without a specified date of publication) is correct according to the guidelines of the North-West University.

programme than those who participated in the competitive programme. Smith and Vaughan (1997:27) observed the same results, stating that cooperation was aborted at the first hint of competition. From this research it is clear that the use of competition as an implementation strategy should be carefully considered.

Another area that needs careful consideration regarding implementation strategies is the way that the experiential learning model will be integrated with each activity to stimulate growth and learning. In this regard the processing of the experience plays a vital role and will, therefore, now be discussed in detail.

2.5.1.4. Foundations of processing

Apart from presenting activities and ensuring the safety of participants, the role of an adventure leader during an AEL programme is to assist participants in processing experiences so that learning can be generated from the various adventure activities used.

2.5.1.4.1. Creating positive climate for Processing

Processing is a combination of both art and science, requiring the leader to perform a complex mixture of skills such as presenting activities, observing and analysing group dynamics and interactions and finally processing the experiences so that participants reach the relevant learning objectives (Knapp, 1999:221; Ringer, 1999:1). Knapp (1999:220) states that processing is based on four assumptions, namely that 1) processing by skilled leaders can help participants gain understanding, 2) that human relation process skills can be learned through controlled group interaction, 3) that group learning can, with the help of the leader, be processed so that it can be applied in situations outside the group, and 4) processing outdoor challenges can provide stimuli for making lasting life changes. From these assumptions it is clear that an emphasis is placed on the development of individuals through participation in group activities. An important task of the leader is, therefore, to ensure that an appropriate group climate that is conducive to learning is maintained. Ringer (1999:2) uses the term containment and refers to the group structure and culture co-created by the leader and participants during a programme. Containment will address issues such as making sure the group understands and shares in the purpose of the programme, helping the group create group norms and ground rules, outlining expected behaviour

and finally creating a safe and supportive atmosphere to discuss and disclose personal and group issues (Schoel *et al.*, 1988:94; Knapp, 1999:222; Ringer 1999:2). Initially the leader will fulfil an active role in creating the structure and later on in the programme fulfil a more supervisory role, helping the group maintain the structure with minimal interference. Another important aspect in creating a positive learning environment, according to Ringer (1999:3), is the fact that a group is characterised by the interconnection between the group members, the interconnection between the group and the leader and finally between the group and certain tasks. It is important that the leader guides the group to develop this interconnectedness, as this will form the foundation for working successfully together.

2.5.1.4.2. Processing adventure experiences

For the purpose of this study processing (also referred to as facilitation, debriefing or reflection) will be defined as the act of conducting verbal discussions prior to, or after, an activity with the aim of encouraging students to implement the experiential learning model (see Figure 2.2) focusing on what will, or has been, learned from the experience (Brown, 2004:162). This definition confirms the arguments of Heunis (1997:124) and McEvoy and Buller (1997:216) that the focus of processing experiences is to distil what the group or individual has learned through reflection on the experiences and how it can be useful in future.

To process experiences successfully in order to gain learning, various processing techniques can be used. Over time approaches to processing have evolved (see Table 2.1) in terms of the role that the activity, the leader and the participant play in generating and understanding learning from their experiences. Priest and Gass (1997:184) state that the use of advanced processing techniques, such as metaphoric debriefing, frontloading and isomorphically framing the experience are most suitable for development programmes. In support Miner (1999:398) agrees that for the purposes of development programmes, the use of generic techniques are no longer adequate and that advanced processing techniques should be used to enhance learning and achieve programme outcomes. These statements are supported by a study by Gass and Priest (2006:78) that compares the effects of different processing techniques on programme outcomes and found that although metaphoric debriefing was effective in improving programme outcomes, the most significant improvement in programme

outcomes were achieved by a combination of metaphoric debriefing and isomorphic framing. Because of the importance of the advanced processing techniques, each will shortly be discussed.

Table 2.1. Six generations of facilitation (Adapted from Priest & Gass, 1997:178)

Generation 1: Letting the experience speak for itself	Learning and doing
Generation 2: Speaking on behalf of the experience	Learning by telling
Generation 3: Debriefing the experience	Learning through reflection
Generation 4: Directly frontloading the experience	Direction with reflection
Generation 5: Framing the experience	Reinforcement with reflection
Generation 6: Indirectly frontloading the experience	Redirection before reflection

Metaphoric debriefing refers to a processing style where participants are encouraged to identify similarities between the adventure experience and everyday life situations. According to Priest and Gass (1997:182), in this method of processing participants “learn under the guidance of a questioning leader, who helps the group to discover their own learning”. This involves creating situations where participants can identify connections between the adventure experience and everyday life. Metaphoric debriefing usually takes place after completion of an activity with participants making connections to everyday situations with statements like “the way we communicated during this exercise is just like the way we communicate at home”. According to Gass and Priest (2006:81), metaphoric debriefing “enables clients to view new perspectives of relevancy and realism from their learning experiences reflectively”.

Frontloading refers to a pre-activity processing method where the learning outcomes are highlighted before engagement in the activity. During frontloading several key points are highlighted. Firstly the group is asked to revisit the learning that took place during the previous activity. Secondly, the objectives and possible learning outcomes of the current activity are highlighted. Thirdly, asking how the learning of the activity can be important and helpful in other life situations motivates the group. Fourthly, the group is encouraged to identify the behaviours that will help them complete the activity successfully and how these behaviours will be optimised. Lastly, the group

will be asked which factors will be detrimental to the success of the activity and how these negative factors can be overcome (Priest and Gass, 1997:201).

Isomorphic framing is an advanced processing technique used to improve transfer of learning. Gass and Priest (2006:81) describe isomorphic framing as when facilitators and participants proactively frame experiences to possess relevance to participants' learning issues. According to Priest and Gass (1997:210), an isomorph is "an idea, object, or description that is identical in form or structure, but not necessarily composition or function, to another idea, object or description. During isomorphic framing explicit reference to the metaphoric similarities between the activity and workplace are made before participation in the activity. This gives participants the chance to understand the importance of the learning from the current activity, as well the future application of the learning in an everyday setting (Priest & Gass, 1997:210).

2.5.1.5. Transfer of learning

According to Luckner and Nadler (1997:20), an individual's real gain of participation in an experience is best measured by determining how much has been learned and to what degree this learning can be sustained and applied in real life situations. The assumption behind transfer of learning is that the behaviour, feelings and thoughts exhibited by participants during AEL is representative of their behaviour, feelings and thoughts in everyday situations. It is further argued that if the behaviour, feelings or thoughts of participants can be altered during AEL, these changes will cascade into participants' everyday lives (Steyn, 2001:176). This assumption supports Luckner and Nadler (1997:20) who state that "the activities and events may be different, but the emotions, thoughts and behaviour are not". To clarify the concept of transfer of learning, it is necessary to study the different types of transfer of learning that can occur. Three types of transfer can occur, namely specific transfer or near transfer, non-specific or far transfer and metaphorical transfer (Gass, 1999:229; Haas & Sibthorp, 2004:24). Specific transfer refers to skills which can be applied in a similar way in various situations (Dainty and Lucas, 1992:111). An example of this is communication where the skills to communicate with a work group can be directly applied in communicating with a church group. Non-specific transfer refers to those skills where knowledge of the concept can be applied in a broad range of situations that differ entirely from the original learning experience. Dainty and Lucas

(1992:111) claim that these are often more complex people management skills such as leadership. Finally, metaphoric transfer occurs when similar underlying principles are generalized from one situation and applied to future situations with similar elements (Gass, 1999:230). Depending on the programme outcomes, one, or a combination of these types of transfer will be implemented ensuring the long term success of the programme.

2.5.1.5.1. Conditions for transfer

Various factors that influence learning transfer should be taken into account when planning an AEL programme. Firstly various authors (Luckner & Nadler, 1997:21; Burke & Collins, 1998:139; Thompson *et al.*, 2003:540) agree that the new attitudes, skills and knowledge learned during AEL training must be relevant to situations that participants will face in real life for any real transfer to occur. Secondly, according to Priest and Gass (1997:210), the use of various metaphors during guided processing can contribute to the degree of transfer of learning during AEL. According to Luckner and Nadler (1997:20) and Steyn (2001:176), transfer of learning can take place unconsciously or through guided processing. During spontaneous transfer of learning the resemblance between the activity and the workplace is so clear that participants can make the connection of how the learning from the activity can be applied back at work spontaneously, without the help of a facilitator. A problem that does influence the degree of transfer of learning is the fact that the unique and novel setting and the nature of activities used during AEL can hinder participants from making a connection between the activities and the workplace, resulting in an inability to transfer the learning back to real life settings (Burke & Collins, 1998:142). In this regard Priest and Gass (1997:175) state that participants may not be able to apply what they learned during an AEL programme successfully to real life situations, because the activities of the AEL programme were not planned and presented in such a way that they had similarities that could be linked to real life experiences. It is, therefore, important that individuals see the similarities between situations that happen during AEL and situations that have occurred in other aspects of life (Luckner & Nadler, 1997:20).

Isomorphic framing can be used successfully to help participants make a connection between the AEL experiences and real life. Isomorphic framing is concerned with

addressing the needs and objectives of participants during AEL in such a way that the successful completion of an adventure activity resembles the successful resolution of participant issues in real life (Priest & Gass, 1997:210). For this to happen relevant isomorphic frames should be designed that reflect both the context of life and the issues that need to be resolved. Steyn (2001:177) supports this argument, stating that the success of metaphors depend on the degree of isomorphism between the metaphor and real life. It is, therefore, also important that the programmer has adequate insight into the lives of the participants to enable the design of appropriate isomorphic frames.

2.5.2. Summary

Proper planning and processing of an experience is important. Through processing experiences are turned into learning opportunities where participants have the opportunity to grow and develop. It is important, however, to realise that the ability to apply learning in real life situations is the real determinant of success of AEL. From the literature it is obvious that the implementation or micro phase of programme planning is a complex exercise. Ensuring that the sequence of activities are correct, presenting and processing the activities in such a way that participants can implement the experiential learning model and ensuring that planned transfer of learning occurs requires experience, knowledge of the activities and proper planning.

2.6. CONCLUSION

From the review of literature it is apparent that AEL consists of a complex combination of constructs that can, when used correctly, have a positive impact on participants through the development of personal effectiveness. As personal effectiveness qualities are key to an individual's success in life, it is important to maximise the quality of AEL to ensure that programme outcomes are achieved as efficiently as possible. Through the use of the Accountability Model (Peterson & Stumbo, 2000:60) specific programme objectives are formulated according to participant needs. Programme content and process is subsequently determined to ensure that the correct activities are used to achieve programme objectives.

Knowledge of adventure and the constructs thereof are vital during the selection of specific programme activities, as each activity outcome must contribute to the achievement of overall programme objectives. Although knowledge regarding how and why change occur in participants during AEL is limited, the literature suggests that two factors play an important role. Firstly, according to Luckner and Nadler (1997:23), the feelings and emotions experienced because of dissonance created within participants during AEL motivates participants to find direction and gain knowledge about themselves. Secondly, and closely related to the abovementioned, is the use of processing techniques as this will help distil the learning that occurred and will help participants to relate this learning to everyday situations.

2.7. REFERENCES

ADEYEMI-BELLO, T. 2001. Validating Rotter's (1966) locus of control scale with a sample of not for profit leaders. *Management research news*, 24(6/7):25-34.

ANDRESEN, L., BOUD, D. & COHEN, R. 2000. Experienced-based learning. (In Foley, G., ed. *Understanding Adult Education and Training*. 2nd ed. Sydney: Allen & Unwin. p. 225-239.)

BENSON, P.L. 2000. Our greatest resource.

http://www.findarticles.com/cf_0/m1145/10_35/666827/print.jhtml Date of access: 17 Jun. 2002.

BISSON, C. 1999. Sequencing the adventure experience. (In Miles, J.C. & Priest, S., eds. *Adventure programming*. Pa.: Venture. p. 205-213.)

BOYATZIS, R.E. & KOLB, D.A. 1995. From learning styles to learning skills: the executive skills profile. *Journal of managerial psychology*, 10(5):3-17.

BROWN, M. 2004. The facilitator as gatekeeper: a critical analysis of social order in facilitation sessions. *Journal of adventure education and outdoor learning*, 2(2):101-112.

BURKE, V. & COLLINS, D. 1998. The great outdoors and management development: a framework for analysing the learning and transfer of management skills. *Managing leisure*, 3:136-148.

BURNETT, K. & GALLOWAY, S. 2005. (In Phipps, M. & Hayashi, A., eds. Wilderness education association: proceedings of the 2005 national conference on outdoor leadership held on 18-20 February at Estes Park. Blooming, Ind.: WEA national office. p. 32-42.) http://www.weainfo.org/WEA_Conf_Proceedings_as.pdf Date of access: 16 Aug. 2006.

BURNETT, D. & JAMES, K. 1994. Using the outdoors to facilitate personal change in managers. *Journal of management development*, 13(9):14-25.

CSIKSZENTMIHALYI, M. & CSIKSZENTMIHALYI, I. 1999. Adventure and the flow experience. (In Miles, J. & Priest, M.A., eds. Adventure programming. State College, Pa.: Venture. p. 153-158.)

CURTIS, R. 2002. The risk assessment and safety system. <http://www.outdoored.com/articles/Article.aspx?ArticleID=151> Date of access: 4 Jan. 2007.

CUSINS, P. 1995. Action learning revisited. *Industrial and commercial training*, 27(4):3-10.

CUSTODERO, L.A. 2002. Seeking challenge, finding skill: flow experience and music education. *Arts education policy review*, 103(3):3-9.

DAINTY, P. & LUCAS, D. 1992. Clarifying the confusion: a practical framework for evaluating outdoor development programmes for managers. *Management education and development*, 23(2):106-122.

DAVIS-BERMAN, J. & BERMAN, D. 2002. Risk and anxiety in adventure programming. *Journal of experiential education*, 25(2):305-310, Fall.

DuFRENE, D.D., SHARBROUGH, W., CLIPSON, T. & McCALL, M. 1999. Bringing outdoor challenge education inside the business communication classroom. *Business communication quarterly*, 62(3):24-36, Sep.

DUVALL, C.K. 2001. The relationship between thinking patterns and physiological symptoms of stress. *Social behaviour and personality*, 29(6):537-546.

EBBECK, V. & GIBBONS, S.L. 1998. The effect of a team building programme on self-conceptions of grade 6 and 7 physical education students. *Journal of sport and exercise psychology*, 20:300-310.

EWERT, A.W. 2001. Adventure recreation: what's new for resource managers, public policy analysts, and recreation providers.
http://www.findarticles.com/cf_0/m1145/2_36/71825045/print.jhtml Date of access: 24 Feb. 2001.

GARST, G., SCHREIDER, I. & BAKER, D. 2001. Outdoor adventure program participation impacts on adolescent self-perception. *Journal of experiential education*, 24(1):41-49, Spring.

GASS, M.A. 1999. Transfer of learning in adventure programming. (In Miles, J.C. & Priest, S., eds. Adventure programming. Pa.: Venture. p. 227-233.)

GASS, M.A. & PRIEST, S. 2006. The effectiveness of metaphoric facilitation styles in Corporate Adventure Training (CAT) programs. *Journal of experiential education*, 29(1):78-94.

GREENAWAY, R. 2002. Experiential learning cycles.
<http://reviewing.co.uk/research/learning.cycles.htm> Date of access: 17 Jun. 2007.

GUCKER, P.L. 2001. Camp teaches life lessons: promoting children's good health.
http://www.findarticles.com/cf_0/m1249/5_74/80194446/print.jhtml Date of access: 30 May 2002.

HAAS, C. & SIBTHORP, J. 2004. Making the benefits last. *Parks & recreation*, 24-32, Jun.

HAMILTON, T.A. & COOPER, C. 2001. The impact of outdoor management development (OMD) programmes. *Leadership and organizational development journal*, 22(7):330-340.

HATTIE, J.A., MARSH, H.W., NEILL, J.T. & RICHARDS, G.E. 1997. Adventure education and Outward Bound: out-of-class experiences that make a lasting difference. *Review of educational research*, 67:43-83.

HERBERT, J.T. 1998. Therapeutic effects of participating in adventure therapy programs. *Rehabilitation counseling bulletin*, 41(3):201-217, Mar.

HEUNIS, C. 1997. Avontuurgerigte spanbou in 'n eietydse samelewing: 'n Menslike bewegingskundige perspektief. Pretoria: Universiteit van Pretoria. (Thesis – D.Phil) 207 p.

HOLDEN, R. 1995. Penetrating the mystique of outdoor management development. *Education and training*, 37(2):22-25.

IBBETSON, A. & NEWELL, S. 1999. A comparison of a competitive and non-competitive outdoor management development programme. *Personnel review*, 28(1/2):58-76.

ITIN, C.M. 1995. Adventure therapy and the addictive process.
<http://www.lin.ca/leisureability.htm> Date of access: 23 Jan. 2002.

ITIN, C.M. 1999. Reasserting the philosophy of experiential education as a vehicle for change in the 21st century. *Journal of experiential education*, 22(2):91-98, Fall.

KIRKPATRICK, S.A. & LOCKE, E.A. 1996. Direct and indirect effects of three core charismatic leadership components on performance and attitudes. *Journal of applied psychology*, 81(1):36-51, Feb.

KLINT, K.A. 1999. New direction for enquiry into self-concept and adventure experiences. (In Miles, J.C. & Priest, S., eds. Adventure programming. Pa.: Venture. p. 163-169.)

KNAPP, C.E. 1999. Processing the adventure experience. (In Miles, J.C. & Priest, S., eds. Adventure programming. Pa.: Venture. p. 219-224.)

KOLB, D.A. 1984. Experiential learning: Experience as the source of learning and development. Engelwood Cliffs, N.J.: Prentice-Hall. 256 p.

LUCKMANN, C. 1996. Defining experiential education. *Journal of experiential education*, 19(1):6-7.

LUCKNER, J.L. & NADLER, R.S. 1997. Processing the experience: strategies to enhance and generalize learning. 2nd ed. Dubuque, Ia.: Kendal/Hunt. 418 p.

MARSH, H.W. & JACKSON, S.A. 1999. Flow experience in sport: construct validation of multidimensional, hierarchical state and trait responses. *Structural equation modeling*, 6(4):343-371.

MARTIN, A.J. 2001. Towards the next generation of experiential education programmes: a case study of Outward Bound. Palmerston North: Massey University. (Thesis – D.Phil.) 298 p.

McEVOY, G.M. & BULLER, P.F. 1997. The power of outdoor management development. *Journal of management development*, 16(3):208-217.

McKENZIE, M.D. 2000. How are adventure education outcomes achieved? A review of literature. *Australian journal of outdoor education*, 5(1):19-26.

MEYER, J.P. 2003. Four territories of experience: a developmental action inquiry approach to outdoor adventure experiential learning. *Academy of management learning and education*, 2(4):352-363.

MILLHOLLAND, R. 1995. Experiential training: Spanning a decade. (In Roland, C.C., Wagner, R.J. & Weigand, R.J., eds. Do it...and understand! The bottom line on corporate experiential learning. Dubuque, Ia.: Kendall/Hunt. p. 54-58.)

MINER, T. 1999. Adventure in the workplace. (In Miles, J. & Priest, M.A., eds. Adventure programming. State College, Pa.: Venture. p. 395-401.)

MONETA, G.B. 2004. The flow experience across cultures. *Journal of happiness studies*, 5:115-121.

MULLEN, B. & COPPER, C. 1994. The relation between group cohesiveness and performance: An integration. *Psychological bulletin*, 115(2):210-228.

NEILL, J.T. & DIAS, K.L. 2001. Adventure education and resilience: the double edged sword. *Journal of adventure and outdoor learning*, 1(2):35-42.

NEILL, J.T., MARSH, H.W. & RICHARDS, G.E. 2001. The life effectiveness questionnaire: Development and psychometrics. Sydney: University of Western Sydney.

<http://www.wilderdom.com/pdf/NeillinpreparationLEQPsychometricsDec2002.pdf>
Date of access: 10 Apr. 2005.

NEILL, J.T. & RICHARDS, G.E. 1998. Does outdoor education really work? A summary of recent meta-anaylsis. *Australian journal of outdoor education*, 3(1):1-9.

NG, A.H. 2001. Adventure learning influence of collectivism on team and organizational attitudinal changes. *Journal of management development*, 20(5):424-440.

NICHOLS, G. 1999. Is risk a valuable component of outdoor adventure programmes for young offenders undergoing drug rehabilitation? *Journal of youth studies*, 2(1):101-115.

NICHOLS, G. 2000. Risk and adventure education. *Journal of risk research*, 3(2):121-134.

OLSEN, J.H. 1998. The evaluation and enhancement of training transfer. *International journal of training and development*, 2(1):61-75.

PETERSON, C.A. & STUMBO, N.J. 2000. Therapeutic recreation program design: principles and procedures. 3rd ed. Mass.: Allyn and Bacon. 370 p.

PRIEST, S. 199?(In review). The impact of sequencing on teamwork development in a CAT program. *Australian journal of outdoor education*.
<http://www.tarrak.com/FREE/res.pdf> Date of access: 10 Oct. 2007.

PRIEST, S. 1998?(In press). Organisational team building: Experiential vs. Classroom. *Journal of adventure education and outdoor leadership*.
<http://www.tarrak.com/FREE/res.pdf> Date of access: 10 Oct. 2007.

PRIEST, S. 1999a. Research in adventure programming. (In Miles, J. & Priest, M.A., eds. Adventure programming. State College, Pa.: Venture. p. 309-317.)

PRIEST, S. 1999b. The semantics of adventure programming. (In Miles, J. & Priest, M.A., eds. Adventure programming. State College, Pa.: Venture. p. 111-114.)

PRIEST, S. 1999c. The adventure experience paradigm. (In Miles, J. & Priest, M.A., eds. Adventure programming. State College, Pa.: Venture. p. 159-162.)

PRIEST, S. & GASS, M.A. 1997. Effective leadership in adventure programming. Champaign, Ill: Human Kinetics. 316 p.

PROPST, D.B. & KOESLER, R.A. 1998. Bandura goes outdoors: Role of self-efficacy in the outdoor leadership development process. *Leisure sciences*, 20:319-344.

QUINN, W. 1999. The essence of adventure. (In Miles, J. & Priest, M.A., eds. Adventure programming. State College, Pa.: Venture. p. 149-151.)

RICHARDS, G.E., ELLIS, L.A. & NEILL, J.T. 2002. The ROPELOC: review of personal effectiveness and locus of control: a comprehensive instrument for reviewing life effectiveness. Paper presented at Self Concept Research: Driving international research agendas, 6-8 Aug. 2002, Sydney.

<http://www.wilderdom.com/abstractsRichardsEllisNeill2002ROPELOCComprehensiveInstrumentReviewingPersonalEffectiveness.htm> Date of access: 9 Jun. 2005.

RINGER, M. 1999. Two vital aspects in the facilitation of groups: connections and containment. *Australian journal of outdoor education*, 4(1):1-8.

RUSSEL, K.C., HENDEE, J.C. & MILLER, D.P. 1995. How wilderness therapy works: an examination of the wilderness therapy process to treat adolescents with behavioural problems and addictions, *USDA forest service proceedings RMRS-P*, 15(3):207-217.

SCHOEL, J., PROUTY, D. & RADCLIFFE, P. 1988. Islands of healing: a guide to adventure based counseling. Hamilton, Mass.: Project Adventure. 305 p.

SHEEHAN, M. & KEARNS, D. 1995. Using Kolb: implementation and evaluation of facilitation skills. *Industrial and commercial training*, 27(6):8-14.

SIBTHORP, J. & ARTHUR-BANNING, S. 2004. Developing life effectiveness through adventure education: the roles of participant expectations, perceptions of empowerment, and learning relevance. *Journal of experiential education*, 27(1):32-50.

SIEBERT, P. 1995. The importance of a thorough needs assessment. (In Roland, C.C., Wagner, R.J. & Weigand, R.J., eds. Do it...and understand! The bottom line on corporate experiential learning. Dubuque, Ia.: Kendall/Hunt. p. 59-64.)

SMITH, D. & VAUGHAN, S. 1997. The outdoors as an environment for learning and change management. *Industrial and commercial training*, 29(1):26-30.

STEYN, R. 2001. Die ontwerp en evaluering van 'n buitemuurse ervaringsleeringreep. Potchefstroom: Potchefstroomse Universiteit vir Christelike Hoër Onderwys. (Thesis – D. Phil.) 392 p.

STOLTZ, P. 1995. Developing leaders experientially. (In Roland, C.C., Wagner, R.J. & Weigand, R.J., eds. Do it...and understand! The bottom line on corporate experiential learning. Dubuque, Ia.: Kendall/Hunt. p. 12-22.)

STUMBO, N.J. & PETERSON, C.A. 2004. Therapeutic recreation program design: principles and procedures. 4th ed. San Francisco, Calif.: Pearson/Benjamin Cummings. 500 p.

SULLIVAN, M. & KOLB, D. 1995. Turning experience into learning. (In Roland, C.C., Wagner, R.J. & Weigand, R.J., eds. Do it...and understand! The bottom line on corporate experiential learning. Dubuque, Ia.: Kendall/Hunt. p. 5-11.)

TESNEAR, S. 2004. Die invloed van 'n avontuurgerigte ervaringsleerprogram op die persoonlike funksionering van jeugdige. Potchefstroom: NWU. (Dissertation – M.A.) 163 p.

THOMPSON, D.E., BROOKS, K. & LIZÁRRAGA, E.S. 2003. Perceived transfer of learning: from the distance education classroom to the workplace. *Assessment and evaluation in higher education*, 28(5):539-547, Oct.

VERSTER, Y. 2004. Die impak van 'n avontuurgerigte ervaringsleerprogram op die selfpersepsie van jeugdige. Potchefstroom: NWU. (Dissertation – M.A.) 143 p.

VRUGT, A. & KOENIS, S. 2002. Perceived self-efficacy, personal goals, social comparisons, and scientific productivity. *Applied psychology*, 51(4):593-603.

WALTERMIRE, M.E. 1999. A kaleidoscope of opportunity: teaching life skills.
http://www.findarticles.com/cf_0/m1249/1_72/53889665/print.jhtml Date of access:
17 Aug. 2001

WILLIAMS, S.D., GRAHAM, T.S. & BAKER, B. 2003. Evaluating outdoor experiential training for leadership and team building. *Journal of management development*, 22(1):45-59.

WORTH, R. 2004. Organization skills. 2nd ed. New York: Ferguson. 138 p. (Career skills library).

WURDINGER, S.D. & PRIEST, S. 1999. Integrating theory and application in experiential learning. (In Miles, J. & Priest, M.A., eds. Adventure programming. State College, Pa.: Venture. p. 187-192.)

3 THE EFFECT OF ADVENTURE-BASED EXPERIENTIAL LEARNING ON PERSONAL EFFECTIVENESS OF ADOLESCENTS

This article has been submitted for consideration in the African Journal for Physical, Health Education, Recreation and Dance (AJPHERD) and is included in this dissertation with the consent of the co-authors, Dr. C. Meyer and Dr. A. Monyeki. The article is hereby included according to the specific guidelines of the journal. These guidelines are presented in Appendix A (Guidelines for Authors).

Mr. J. Theron Weilbach (B.A. Honns.)* Tel: 018 299 4651
E-mail: 11938099@nwu.ac.za
Fax: 018 299 1808

*Lecturer, School of Biokinetics, Recreation and Sport Science, North-West University (Potchefstroom Campus), South Africa.

Dr. Charlé du P. Meyer** Tel: 018 299 1809
E-mail: Charle.Meyer@nwu.ac.za
Fax: 018 299 1808

**PhD., School of Biokinetics, Recreation and Sport Science, North-West University (Potchefstroom Campus), South Africa.

Dr. Andries M. Monyeki*** Tel: 018 299 1790
E-mail: Andries.Monyeki@nwu.ac.za
Fax: 018 299 1800

*** PhD., School of Biokinetics, Recreation and Sport Science, North-West University (Potchefstroom Campus), South Africa.

The effect of adventure-based experiential learning on personal effectiveness of adolescents

Theron WEILBACH, Charlé du P. MEYER and Andries MONYEKI
*School of Biokinetics, Recreation and Sport Science, North-West University
(Potchefstroom Campus), Potchefstroom, Republic of South Africa*

Abstract

The purpose of the study was to determine the effectiveness of Adventure-based Experiential Learning (AEL) in developing the personal effectiveness of adolescents. Twenty three adolescents, currently enrolled in a post-matric development centre were studied. The study consisted of an experimental (n=12) and control group (n=11). The experimental group participated in a five day low risk AEL programme in an urban setting. The ROPELOC instrument developed and piloted by Richards, Ellis and Neill (2002) was used to measure 14 constructs related to personal effectiveness. The ROPELOC was administered in the form of pre and post-tests for both groups. Pre-post-test effect sizes showed that the experimental group experienced high significant ($d \approx 0.80$) development in four areas and medium ($d \approx 0.50$) development in nine areas of personal development, compared to one medium effect size for the control group. The results from this study compare favourably with the benchmark effect size for AEL of 0.40 as suggested by Neill (2003) with an average effect size of 0.61. Based on these results AEL may be seen as an effective programme in improving personal effectiveness of adolescents.

Key words: Adventure-based experiential learning; personal effectiveness; adventure education; adventure therapy.

The effect of adventure-based experiential learning on personal effectiveness of adolescents

Theron WEILBACH, Dr. Charle MEYER and Dr. Andries MONYEKI

School of Biokinetics, Recreation and Sport Science

North-West University

Potchefstroom Campus

Potchefstroom

Private Bag x6001

Tel. 018 299 4651

Fax. 018 299 1808

Email. 11938099@nwu.ac.za

J. Theron Weilbach, B.A. Hons., Recreation Science

Charle du P. Meyer, PhD., Recreation Science

Andries Monyeki, PhD., Human Movement Science

INTRODUCTION

It is evident from traditional field studies and anecdotal accounts that training that uses adventure and experiential learning activities to develop personal effectiveness is effective (McEvoy & Buller, 1997; Burke & Collins, 1998; DuFrene, Sharbrough, Clipson & McCall, 1999; Ng, 2001; Williams, Graham & Baker, 2003). Scientific research based studies in the abovementioned aspects are limited and it is, therefore, with no doubt that more scientific research which investigates the effect of Adventure-based Experiential Learning¹ on the personal effectiveness of participants is needed. Williams et al. (2003) indicated that personal competencies of individuals, such as leadership, problem-solving, trust and communication are believed to be key elements for success in life and, therefore, the effect of AEL on these competencies should be studied.

¹ Throughout this study the term Adventure-based Experiential Learning will be referred to as AEL

The findings from a meta-analysis (Cason & Gillis, 1994) using data from 43 studies show that across the whole spectrum of programmes (e.g. wilderness expeditions, centre-based programmes or combinations of both) AEL had only a small effect on participants, with an average effect size of 0.31. In another meta-analysis by Hattie, Marsh, Neill and Richards (1997), results indicated the overall average effect size of AEL on personal effectiveness to be 0.34. Based on the latter studies, Neill (2003) concluded that a benchmark effect size of AEL programmes on personal effectiveness can roughly be seen as 0.40. This benchmark serves as a reference point with which results from other AEL studies can be compared.

Priest (1999) stated that "...adventure programming has failed to create a unique body of knowledge. Therefore, adventure programming sits on the fringe, unable to claim that it does much good". The purpose of this study is, therefore, based on the abovementioned statement, reviewed literature and the lack of reliable evidence that supports the claims of effectiveness of AEL, to determine whether a 5 day centre-based AEL programme for adolescents is indeed successful in improving the personal effectiveness of participants. Results from this study will add knowledge to the scientific world of research regarding the effectiveness of centre-based AEL.

METHOD

Participants

Thirty five (35) participants currently enrolled in a post-matric youth development programme were used as a sample pool for this study. The ages of the candidates range from 19-22 years. Two groups were selected based on an available sample to serve as experimental and control groups (Strydom & De Vos, 2001). The experimental group was randomly selected from the pool of 35 candidates, consisting of both males and females, to create a group of 12 members. The control group, consisting of 11 members, was also selected randomly from the pool. The remaining 12 candidates were not used in this study.

Instruments and procedures

For the purpose of this study a pre-post experimental research design, as suggested by Neill (2002) was used. In order to ensure programme effectiveness the AEL programme design was based on the Accountability Model by Peterson and Stumbo (2000). This approach to programme design implies that service providers are held responsible for the production and delivery of AEL services that best meet client needs and move clients toward predetermined outcomes in the most timely, efficient and effective manner as possible (Peterson & Stumbo, 2000). In order to determine the programme outcomes a needs assessment was conducted on the whole sample group by means of the Leadership Quality Inventory that determines an individual's strengths and weaknesses based on leadership dynamics, people orientated qualities, task orientated qualities and self orientated qualities (Faul & Hanekom, 2005). Based on a group profile of the needs assessment, specific programme content and process was determined and a five day AEL programme with a focus on the development of personal effectiveness designed and presented to the experimental group. The control group did not take part in any AEL programme. The programme consisted of low risk initiative exercises presented indoors as well as outdoors in an urban setting. After each activity the whole experience was processed in order to highlight learning from the experience. The programme was presented by a post-graduate student in the field of outdoor recreation with eight years experience in planning, presenting and facilitating AEL programmes.

Directly before and directly after the AEL programme participants of the experimental and control groups were requested to complete the Review of Personal Effectiveness with Locus of Control (ROPELOC). The ROPELOC was used to determine the effect of the AEL programme on the personal effectiveness of participants. The ROPELOC instrument measures personal effectiveness by means of fourteen scales, namely 1) self-confidence, 2) self-efficacy, 3) stress management, 4) open thinking, 5) social effectiveness, 6) cooperative teamwork, 7) leadership ability, 8) time management, 9) quality seeking, 10) coping with change, 11) active involvement, 12) overall effectiveness, 13) internal locus of control, and 14) external locus of control (Richards, Ellis & Neill, 2002). According to Richards et al. (2002), the ROPELOC has a

reliability coefficient of between 0.79 and 0.93, with an average internal reliability of 0.85 (Cronbach Alpha value). Nunnally and Bernstein (1994) propose that a reliability coefficient of 0.60 can be seen as acceptable.

Statistical analysis of data

Data was analysed with the assistance of the Statistical Consultation Services at the Potchefstroom Campus of the North-West University. Descriptive statistics were used to examine the demographic characteristics of the subjects. In studying the inter-group effect of the adventure-based experiential learning programme paired sample T-tests and the effect sizes on the difference between pre-test and post-test data were calculated. Further, effect sizes were calculated on the pre-test scores of the two groups to determine their comparability. To determine the post-test effect sizes between the two groups effect sizes on the post-test scores, controlling for the pre-test scores was used.

RESULTS

Descriptive statistics indicate that male participants accounted for 65% of the total research group used in the study (Figure 1).

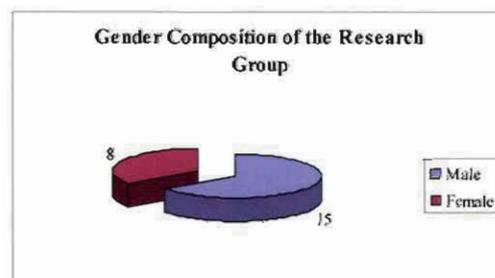


Figure 1: Demographic distribution of the total research group by gender.

Table 1 indicates the pre-test differences between the two groups by means of effect sizes. The results show that out of 14 constructs only a high significant effect was found for Social Effectiveness (SE), followed by medium effect sizes for Leadership Ability (LA) and Coping with Change (CH), while the other remaining constructs indicated small effect sizes.

Table 1. Effect sizes on the pre-test scores of the experimental and control groups.

CONSTRUCT	Pre-test Mean (SD)		Effect sizes
	Experimental group	Control group	<i>d</i>
Active involvement: AI	19.67 (4.29)	19.60 (2.50)	0.02
Cooperative Teamwork: CT	19.50 (4.08)	18.30 (4.90)	0.24
Leadership Ability: LA	17.83 (4.24)	20.30 (4.35)	0.57*
Open Thinking: OT	18.67 (2.39)	20.10(3.35)	0.43
Quality Seeking: QS	19.25 (2.60)	19.80 (2.78)	0.20
Self Confidence: SC	19.17 (2.52)	20.10 (3.11)	0.30
Self Efficacy: SF	16.92 (3.34)	17.70 (3.74)	0.21
Social Effectiveness: SE	19.58 (3.94)	15.90(5.09)	0.72*
Stress Management: SM	16.75 (4.05)	17.20 (3.36)	0.11
Time Efficiency: TE	15.33 (3.94)	14.50(3.89)	0.21
Coping with change: CH	17.25 (3.77)	19.40 (3.34)	0.57*
Overall Effectiveness: OE	17.50 (1.93)	17.90 (3.28)	0.12
Internal Locus of Control: IL	20.08 (3.53)	21.80 (2.53)	0.49*
External locus of control: EL	12.42 (4.58)	9.70 (5.50)	0.49*

d≈0.2: Small effect with little practical significance; **d*≈0.5: Substantial effect with possible practical significance; ***d*≈0.8: Large effect with practical significance

Table 2. Effect sizes between the pre-test and post-test scores of the experimental and control groups respectively.

CONSTRUCT	Experimental Group		Control Group	
	MEAN(SD)	EFFECT SIZE (<i>d</i>)	MEAN(SD)	EFFECT SIZE (<i>d</i>)
Active involvement: AI	1.50(2.91)	0.52*	0.20(2.10)	0.09
Cooperative Teamwork: CT	1.42(3.48)	0.41	0.20(2.94)	0.07
Leadership Ability: LA	1.75(2.73)	0.64*	-0.10(1.91)	0.05
Open Thinking: OT	1.42(2.54)	0.56*	-0.30(2.75)	0.10
Quality Seeking: QS	1.00(2.00)	0.50*	0.90(2.60)	0.34
Self Confidence: SC	1.42(1.98)	0.74**	1.30(2.58)	0.50*
Self Efficacy: SF	1.58(3.37)	0.47*	-0.30(2.71)	0.11
Social Effectiveness: SE	0.83(1.85)	0.45*	1.80(4.94)	0.40
Stress Management: SM	1.33(2.81)	0.47*	0.60(2.50)	0.24
Time Efficiency: TE	1.67(2.23)	0.75**	0.90(2.42)	0.40
Coping with change: CH	1.42(2.68)	0.53*	-0.70(2.63)	0.27
Overall Effectiveness: OE	2.00(1.81)	1.10**	0.90(2.18)	0.41
Internal Locus of Control: IL	0.92(1.88)	0.49*	-0.30(1.89)	0.15
External locus of control: EL	-2.58(2.87)	0.90**	0.40(2.67)	0.15

d≈0.2: Small effect with little practical significance; **d*≈0.5: Substantial effect with possible practical significance; ***d*≈0.8: Large effect with practical significance

According to Neill (2003), the key interest effect size for studies evaluating programme effectiveness indicates the difference between the measures before and after the intervention. The effect sizes between the measures before and after the intervention are presented in Table 2. From these results (Table 2) it becomes apparent that AEL can have an effect on the personal effectiveness of participants. From the experimental group the results show that the largest effect sizes were achieved with the constructs of Overall Effectiveness (OE) ($d=1.10$), External Locus of Control (EL) ($d=0.90$) and Time Efficiency (TE) ($d=0.75$), while the control group indicated a medium improvement with only one construct, namely Self Confidence (SC) ($d=0.50$).

Investigation into the inter-group differences of the two groups as presented in Table 3 reveals only two large effect sizes, namely for External Locus of Control (EL) ($d=1.04$) and Coping with Change (CH) ($d=0.79$). Although Leadership Ability (LA) ($d=0.68$), Internal Locus of Control (IL) ($d=0.64$) and Open Thinking (OT) ($d=0.62$) do not indicate large effect sizes between the two groups, these effect sizes are on the upper scale of the medium effect range and indicate possible significant differences between the groups.

Table 3. Inter-group effect of the AEL programme by means of effect sizes on the difference between pre-test and post-test scores of the experimental and control groups

	Experimental group	Control group	Effect size
CONSTRUCT	MEAN (SD)	MEAN (SD)	<i>d</i>
Active involvement: AI	1.50 (2.91)	0.20 (2.10)	0.45
Cooperative Teamwork: CT	1.42 (3.48)	0.20 (2.94)	0.35
Leadership Ability: LA	1.75 (2.73)	-0.10 (1.91)	0.68*
Open Thinking: OT	1.42 (2.54)	-0.30 (2.75)	0.62*
Quality Seeking: QS	1.00 (2.00)	0.90 (2.60)	0.04
Self Confidence: SC	1.42 (1.98)	1.30 (2.58)	0.05
Self Efficacy: SF	1.58 (3.37)	-0.30 (2.71)	0.56*
Social Effectiveness: SE	0.83 (1.85)	1.80 (4.94)	0.20
Stress Management: SM	1.33 (2.81)	0.60 (2.50)	0.26
Time Efficiency: TE	1.67 (2.23)	0.90 (2.42)	0.32
Coping with change: CH	1.42 (2.68)	-0.70 (2.63)	0.79**
Overall Effectiveness: OE	2.00 (1.81)	0.90 (2.18)	0.55*
Internal Locus of Control: IL	0.92 (1.88)	-0.30 (1.89)	0.64*
External locus of control: EL	-2.58 (2.87)	0.40 (2.67)	1.04**

$d \approx 0.2$: Small effect with little practical significance; * $d \approx 0.5$: Substantial effect with possible practical significance; ** $d \approx 0.8$: Large effect with practical significance

Table 4. Effect sizes for the post-test scores of the two groups, controlling for any pre-test differences

CONSTRUCT	LSMEAN Experimental	LSMEAN Control	ROOT MSE	Experimental vs. Control
Active involvement: AI	20.30	19.98	1.94	0.68*
Cooperative Teamwork: CT	20.89	18.98	2.70	0.33
Leadership Ability: LA	20.80	19.40	1.94	0.72*
Open Thinking: OT	20.93	19.67	2.73	0.28
Quality Seeking: QS	20.91	20.95	2.01	0.02
Self Confidence: SC	21.47	21.51	2.00	0.02
Self Efficacy: SF	19.07	17.30	2.77	0.64*
Social Effectiveness: SE	19.59	19.69	3.12	0.03
Stress Management: SM	18.23	17.55	2.37	0.29
Time Efficiency: TE	17.18	16.32	2.45	0.35
Coping with change: CH	19.39	17.75	2.14	0.74*
Overall Effectiveness: OE	20.31	19.26	2.66	0.39
Internal Locus of Control: IL	21.75	21.07	2.44	0.28
External locus of control: EL	8.74	11.65	2.56	1.14**
d \approx 0.2: Small effect with little practical significance; *d \approx 0.5: Substantial effect with possible practical significance; **d \approx 0.8: Large effect with practical significance				

Table 4 presents the results of the effect sizes on post-test scores for the two groups, controlling for the pre-test scores. From this analyses it shows that medium effect sizes were achieved between the two groups for Active Involvement (AI) ($d=0.68$), Leadership Ability (LA) ($d=0.72$), Self Efficacy (SE) ($d=0.64$) and Coping with Change (CH) ($d=0.74$). The only construct that indicates a large effect size is External Locus of Control (EL) ($d=1.14$).

DISCUSSION

Results from this study indicate that AEL is moderate and highly effective in improving the personal effectiveness of participants. The current study achieved minimum effect sizes of 0.41. Additionally, medium effect sizes ($d\approx 0.5$) in nine constructs and practically significant, effect sizes ($d\approx 0.8$ or higher) in four constructs for the experimental group were also achieved. In contrast the control group stayed mainly unchanged with only one construct (Self Confidence) indicating a medium effect size on the pre-test post-test scores. From the results it is difficult to determine any relationship between the constructs that showed the most significant changes, as diverse constructs such as Overall Effectiveness, External Locus of Control, Time Efficiency and Self

Confidence showed practically significant changes. This clearly supports a statement by Hattie et al. (1997) which states that only some constructs are affected by AEL, and that only certain programme components contribute to these changes. The present findings are, however, different from the findings from the meta-analysis studies, as suggested by Neill (2003), as it seems that the programme used in this study achieved higher results ($d \geq 0.41$).

Although the results illustrate that this programme achieved effect sizes above the general benchmark of AEL programmes, the significance of these results is highlighted when compared to other programmes with similar age groups and duration. Hattie et al. (1997) found that programmes longer than 20 days had an average effect size of 0.41 compared to programmes shorter than 20 days with average effect sizes of 0.23. Considering that the duration of the programme used in this study was only five days, the effect sizes ($d \geq 0.41$) are quite significant. Furthermore, Hattie et al. (1997) concluded that the age of participants played a role in the effectiveness of programmes with adults achieving effect sizes of 0.38, while students only achieved effect sizes of 0.21. Considering the effect sizes achieved by this study on adolescents, it is clear that the programme presented to participants in this study was more effective.

The positive findings from the present study can be related to the fact that the Accountability Model of Peterson and Stumbo (2000) was followed in the planning and design of the programme. Using this specific model ensures that “hit and miss” approaches to programme design are eliminated. Further, the model emphasizes the use of a proper needs assessment of clients, a practice supported by Millholland (1995) and Siebert (1995). In the case of this study a needs assessment played a major role in the determination of programme outcomes, as well as determining the programme content and process to be followed. Lastly, a significant amount of time was dedicated to processing each activity so as to highlight any learning and growth that occurred during the respective activities. As many authors revealed that the processing of experiences are a key element in achieving programme outcomes (Priest & Gass, 1997; McEvoy & Buller, 1997; Miner, 1999), this may also have played a significant role in achieving the positive results in the present study.

The limitation of the present study is that only a small sample, hence the unequal number of participants, was used to determine the effectiveness of the programme and limits the generalization of these findings.

CONCLUSION

In conclusion, the present results indicated that the use of a five day AEL programme as an instrument for the development of personal effectiveness of adolescents seems to be moderately to highly effective. Furthermore, effect sizes higher than the suggested benchmark by Neill (2003) were achieved. As a result, it seems that this study raised more questions than answers concerning how programme outcomes are achieved. It is suggested that a combination of proper needs analysis, programme design and processing contributed to the success of the study. Future recommendations include investigating the influence of processing on the achievement of programme outcomes. Furthermore, as it seems that the use of the Accountability Model (Peterson & Stumbo, 2000) contributed to the findings of this study, the influence of various programme design models on the achievement of programme outcomes should be investigated

REFERENCES

- Burke, V. & Collins, D. (1998). The great outdoors and management development: A framework for analysing the learning and transfer of management skills. *Managing Leisure*, 3, 136-148.
- Cason, D. & Gillis, H.L. (1994). Meta-analysis of outdoor adventure programming with adolescents. *Journal of Experiential Education*, 17(1), 40-47, May.
- DuFrene, D.D., Sharbrough, W., Clipson, T. & McCall, M. (1999). Bringing outdoor challenge education inside the business communication classroom. *Business Communication Quarterly*, 62(3), 24-36, September.

Faul, A.C. & Hanekom, A.J. (2005). *Leadership Qualities Inventory (LQI) Technical Manual* (pp. 1-20). Potchefstroom: Perspektief Training College.

Hattie, J.A., Marsh, H.W., Neill, J.T. & Richards, G.E. (1997). Adventure education and Outward Bound: Out-of-class experiences that make a lasting difference. *Review of Educational Research*, 67, 43-83.

McEvoy, G.M. & Buller, P.F. (1997). The power of outdoor management development. *Journal of Management Development*, 16(3), 208-217.

Millholland, R. (1995). Experiential training: Spanning a decade. In C.C. Roland, R.J. Wagner and R.J. Weigand (Eds.), *Do it...and Understand! The Bottom Line on Corporate Experiential Learning* (pp. 54-58). Dubuque, Ia: Kendall/Hunt.

Miner, T. (1999). Adventure in the workplace. In J. Miles and M.A. Priest (Eds.), *Adventure Programming* (pp. 395-401). State College, Pa.: Venture.

Neill, J.T. (2002). Meta-analytic research on the outcomes of outdoor education. Paper presented to the 6th biennial coalition for education in the outdoors research symposium, 11-13 Jan., Bradford Woods, Ind.

Neill, J.T. (2003). Reviewing and benchmarking adventure therapy outcomes: Applications of meta-analysis. *Journal of Experiential Education*, 25(3), 316-321.

Ng, A.H. (2001). Adventure learning influence of collectivism on team and organizational attitudinal changes. *Journal of Management Development*, 20(5), 424-440.

Nunnally, J.C. & Bernstein, I.H. (1994). *Psychometric Theory*. N.Y.: McGraw-Hill. 752 p.

Peterson, C.A. & Stumbo, N.J. (2000). *Therapeutic Recreation Program Design: Principles and Procedures* (3rd ed.). Needham Heights, Mass.: Allyn and Bacon. 370 p.

Priest, S. (1999). Research in adventure programming. In J. Miles and M.A. Priest (Eds.), *Adventure Programming* (pp. 309-317). State College, Pa.: Venture.

Priest, S. & Gass, M.A. (1997). *Effective Leadership in Adventure Programming*. Champaign, Ill: Human Kinetics. 316 p.

Richards, G.E., Ellis, L.A. & Neill, J.T. (2002). The ROPELOC: Review of personal effectiveness and locus of control: A comprehensive instrument for reviewing life effectiveness. Paper presented at Self Concept Research: Driving international research agendas, 6-8 August 2002, Sydney. (*online*), at <http://www.wilderdom.com/abstractsRichardsEllisNeill2002ROPELOCComprehensiveInstrumentReviewingPersonalEffectiveness.htm>. 9 June 2005.

Siebert, P. (1995). The importance of a thorough needs assessment. In C.C. Roland, R.J. Wagner and R.J. Weigand (Eds.), *Do it...and Understand! The Bottom Line on Corporate Experiential Learning* (pp. 59-64). Dubuque, Ia: Kendall/Hunt.

Strydom, H. & De Vos, A.S. (2001). Sampling and sampling methods. In A.S. de Vos, (Ed.), *Research at Grass Roots: A Primer for the Caring Professions* (pp. 189-201). Pretoria: Van Schaik.

Williams, S.D., Graham, T.S., & Baker, B. (2003). Evaluating outdoor experiential training for leadership and team building. *Journal of Management Development*, 22(1), 45-59.

4

THE EFFECT OF PROCESSING ON THE PERSONAL EFFECTIVENESS OUTCOMES OF ADVENTURE-BASED EXPERIENTIAL LEARNING PROGRAMMES FOR ADOLESCENTS

This article has been submitted for consideration in the African Journal for Physical, Health Education, Recreation and Dance (AJPHERD) and is included in this dissertation with the consent of the co-authors, Dr. C. Meyer and Dr. A. Monyeki. The article is hereby included according to the specific guidelines of the journal. These guidelines are presented in Appendix A (Guidelines for Authors).

Mr. J. Theron Weilbach (B.A. Honns.)* Tel: 018 299 4651
E-mail: 11938099@nwu.ac.za
Fax: 018 299 1808

*Lecturer, School of Biokinetics, Recreation and Sport Science, North-West University (Potchefstroom Campus), South Africa.

Dr. Charlé du P. Meyer** Tel: 018 299 1809
E-mail: Charle.Meyer@nwu.ac.za
Fax: 018 299 1808

**PhD., School of Biokinetics, Recreation and Sport Science, North-West University (Potchefstroom Campus), South Africa.

Dr. Andries M. Monyeki*** Tel: 018 299 1790
E-mail: Andries.Monyeki@nwu.ac.za
Fax: 018 299 1800

*** PhD., School of Biokinetics, Recreation and Sport Science, North-West University (Potchefstroom Campus), South Africa.

The effect of processing on the personal effectiveness outcomes of adventure-based experiential learning programmes for adolescents

Theron WEILBACH, Charlé du P. MEYER and Andries MONYEKI

*School of Biokinetics, Recreation and Sport Science, North-West University
(Potchefstroom Campus), Potchefstroom, Republic of South Africa*

Abstract

The purpose of this study was to determine the effect of processing on the personal effectiveness outcomes of Adventure-based Experiential Learning (AEL) for adolescents. Thirty five adolescents, currently enrolled in a post-matric development centre were studied. The study consisted of a processed experimental group (n=12), a non-processed experimental group (n=12) and a control group (n=11). The experimental groups participated in identical five day low risk AEL programmes in an urban setting, with the difference being that the one group received group processing after each activity while the other experimental group did not. The ROPELOC instrument developed and piloted by Richards, Ellis and Neill (2002) was used to measure 14 constructs related to personal effectiveness. The ROPELOC was administered in the form of a pre and post-test for all three groups. Pre-post-test effect sizes for the processed experimental group indicated high significant improvements ($d \approx 0.80$) in four constructs and medium improvements ($d \approx 0.50$) for a further nine constructs. In comparison the non-processed experimental group achieved high significant improvements ($d \approx 0.80$) in one construct and medium improvements ($d \approx 0.50$) in two other constructs. A medium deterioration was also found for one construct of the non-processed experimental group. Future research into the effect of other processing techniques, duration of processing and the sustainability of these results is recommended.

Key words: Adventure-based experiential learning; adventure education; processing; facilitation; personal effectiveness.

The effect of processing on the personal effectiveness outcomes of adventure-based experiential learning programmes for adolescents.

Theron WEILBACH , Dr. Charle MEYER & Dr. Andries MONYEKI

School of Biokinetics, Recreation and Sport Science

North-West University (Potchefstroom Campus)

Potchefstroom

Private Bag X 6001

Tel. 018 299 4651

Fax. 018 299 1808

E-mail: 11938099@nwu.ac.za

J. Theron Weilbach, B.A. Hons., Recreation Science

Charle du P. Meyer, PhD., Recreation Science

Andries Monyeki, PhD., Human Movement Science

INTRODUCTION

Research regarding Adventure-based Experiential Learning (AEL)¹ has focused mainly on evaluating the effectiveness of these programmes, with little or no investigation into how programme outcomes are achieved (Hattie, Marsh, Neill & Richards, 1997); (Rushmer, 1997). Available information on how outcomes are achieved is based on theory, resulting in practice not being grounded on the basis of empirical research, but on assumptions that could possibly be faulty or incomplete (McKenzie, 2000). One such assumption, with limited supporting research (McKenzie, 2000), is that processing of experiences is very important in improving the achievement of programme outcomes. It is assumed that empirical evidence could come up with support for the important practice of processing experiences during AEL (Beard, 1996; Priest, 1996; DuFrene, Sharbrough, Clipson & McCall, 1999) and hence improve attainment of programme outcomes. For the purpose of this study processing will be viewed as an act of conducting verbal discussions prior to, or after an activity in order to distil what will or

¹ Throughout the study the term Adventure-based Experiential Learning will be referred to as AEL.

has been learned from the experience and how this learning can be applied to other life areas (Brown, 2002); (Luckner & Nadler, 1997).

Priest and Gass (1997) indicate that processing techniques evolved from a point where the activity supposedly had enough power to change participants without the need for discussions or reflection to a point where AEL activities are specifically designed, presented and processed (referred to as isomorphic framing of activities) to mirror specific workplace or real life situations. Within the evolution of processing there have also been calls for processing to use positive psychology, focusing on strengths of participants rather than their problems or weaknesses (Gass & Gillis, 1995); (Berman & Davis-Berman, 2005). Only a few studies have aimed to substantiate the importance of these developments in processing theories and models, and little proof in the form of empirical research exists which investigated that processing is indeed the key to improving the achievement of programme outcomes (McKenzie, 2000). One study that examined the effects of different processing techniques on team development outcomes (Gass and Priest, 2006) found that programmes with no processing accounted for a rise of 15% (on a scale of 0%-100%) in teamwork, while the two programmes that used two different advanced processing techniques (metaphoric debriefing and isomorphic framing) respectively achieved an additional 15% improvement in teamwork. It was also found that a combination of these advanced techniques had the best effect by improving teamwork with a further 10% (Gass & Priest, 2006).

Whether processing will have the same results in programmes focusing on individual development, or groups with diverse backgrounds, is still uncertain and reveals a considerable shortcoming in our understanding of processing and the effect that it has on programme outcomes. As a result of the paucity of research regarding processing, the purpose of this study is to determine the effect of processing on the personal effectiveness outcomes of AEL programmes for adolescents. Findings of this study will contribute to the understanding of the importance of processing. Furthermore, data on the effectiveness of processing in a variety of settings and with different groups will assist programme planners in enhancing their AEL programmes (McKenzie, 2000).

METHOD

Participants

Thirty five (35) participants, currently enrolled in a post-matric youth development programme were used for this study. The ages of the candidates range from 19-22 years. Three groups were selected based on an available sample (Strydom & De Vos, 2001). The two experimental groups were randomly selected from the pool of 35 candidates, consisting of both males and females, to create two groups of 12 members. The control group, consisting of the remaining 11 participants, did not take part in any intervention.

Instruments and procedures

For the purpose of this study a pre-post experimental research design, as suggested by Neill (2002) was used. In order to ensure programme effectiveness the AEL programme design was based on the Accountability Model by Peterson and Stumbo (2000). This approach to programme design implies that service providers are held responsible for the production and delivery of AEL services that best meet client needs and move clients toward predetermined outcomes in the most timely, efficient and effective manner possible (Peterson & Stumbo, 2000). In order to determine the programme outcomes a needs assessment was conducted on the whole sample group by means of the Leadership Quality Inventory that determines an individual's strengths and weaknesses based on leadership dynamics, people orientated qualities, task orientated qualities and self orientated qualities (Faul & Hanekom, 2005). Based on a group profile of the needs assessment specific programme content and process were determined and a 5-day AEL programme with a focus on the development of personal effectiveness was designed and presented to the two experimental groups. The only difference between the programmes for the experimental groups is that one programme included processing sessions while the other programme did not. The control group did not take part in any programme and continued with the normal academic programme of the centre. The AEL programme consisted of low risk initiative exercises presented indoors as well as outdoors in an urban setting. Activity sessions were held in the mornings (08:00-10:00), afternoons (14:00-16:00) and evenings (19:00-21:00), with each session lasting two hours. After each activity the one experimental group

participated in a session where the whole experience was processed in order to highlight learning from the experience. Processing techniques focussed on pre-activity discussion (frontloading) of activities, metaphoric reviewing sessions after each activity, and isomorphic framing. The other experimental group did not take part in these sessions. The time between sessions was dedicated to the normal academic programme of the centre. The programme was presented by post-graduate students in the field of outdoor recreation with between four and eight years experience in planning, presenting and facilitating AEL programmes.

Directly before and directly after the AEL programme participants of the experimental groups and the control group were requested to complete the Review of Personal Effectiveness with Locus of Control (ROPELOC). The ROPELOC was used to determine the effect of the AEL programme on the personal effectiveness of participants. The ROPELOC instrument measures personal effectiveness by means of fourteen scales, namely 1) self-confidence, 2) self-efficacy, 3) stress management, 4) open thinking, 5) social effectiveness, 6) cooperative teamwork, 7) leadership ability, 8) time management, 9) quality seeking, 10) coping with change, 11) active involvement, 12) overall effectiveness, 13) internal locus of control, and 14) external locus of control (Richards, Ellis & Neill, 2002). According to Richards et al. (2002), the ROPELOC has a reliability coefficient of between 0.79 and 0.93, with an average internal reliability of 0.85 (Cronbach Alpha value). Nunnally and Bernstein (1994) propose that a reliability coefficient of 0.60 can be seen as acceptable.

Statistical analysis of data

Data was analysed with the assistance of the Statistical Consultation Services at the Potchefstroom Campus of the North-West University. Descriptive statistics were used to examine the demographic characteristics of the subjects. For the data gathered by the ROPELOC the following statistical analysis were conducted: Firstly, effect sizes were determined on the pre-test scores of the three groups to determine their comparability. Secondly, the inter-group effect of the adventure-based experiential learning programme was determined by means of paired sample T-tests and the effect sizes on the difference

between pre-test and post-test. This was also determined for all three groups. Thirdly, effect sizes on the post-test scores, controlling for the pre-test scores were used to determine the post-test effect sizes between the three groups.

RESULTS

Descriptive statistics indicate that male participants accounted for 68% of the total research group used in the study. Due to the limited number of female participants in this study, gender as a variable was omitted from the statistical analysis as it would be difficult to give statistical power to the results.

Table 1. Effect sizes on the pre-test scores of experimental and control groups.

CONSTRUCT	Pre-test Mean (SD)			Effect size (<i>d</i>)		
	Processed (1)	Non-processed (2)	Control (3)	1 AND 2	1 AND 3	2 AND 3
Active involvement: AI	19.67 (4.29)	20.33 (3.31)	19.60 (2.50)	0.16	0.02	0.22
Cooperative Teamwork: CT	19.50 (4.08)	20.33 (3.34)	18.30 (4.90)	0.20	0.24	0.41
Leadership Ability: LA	17.83 (4.24)	20.00 (4.35)	20.30 (4.35)	0.50*	0.57*	0.07
Open Thinking: OT	18.67 (2.39)	21.00 (2.37)	20.10 (3.35)	0.98**	0.43	0.27
Quality Seeking: QS	19.25 (2.60)	21.33 (2.15)	19.80 (2.78)	0.80**	0.20	0.55*
Self Confidence: SC	19.17 (2.52)	21.42 (2.15)	20.10 (3.11)	0.89**	0.30	0.42
Self Efficacy: SF	16.92 (3.34)	18.17 (4.73)	17.70 (3.74)	0.26	0.21	0.10
Social Effectiveness: SE	19.58 (3.94)	19.58 (4.10)	15.90 (5.09)	0.00	0.72*	0.72*
Stress Management: SM	16.75 (4.05)	16.83 (5.46)	17.20 (3.36)	0.02	0.11	0.07
Time Efficiency: TE	15.33 (3.94)	16.58 (5.32)	14.50 (3.89)	0.24	0.21	0.39
Coping with change: CH	17.25 (3.77)	18.08 (5.38)	19.40 (3.34)	0.15	0.57*	0.24
Overall Effectiveness: OE	17.50 (1.93)	19.83 (3.49)	17.90 (3.28)	0.67*	0.12	0.55*
Internal Locus of Control: IL	20.08 (3.53)	21.75 (3.28)	21.80 (2.53)	0.47*	0.49*	0.02
External locus of control: EL	12.42 (4.58)	11.50 (6.04)	9.70 (5.50)	0.15	0.49*	0.30

d≈0.2: Small effect with little practical significance; **d*≈0.5: Substantial effect with possible practical significance;
***d*≈0.8: Large effect with practical significance

Table 1 indicates the pre-test differences between the three groups by means of effect sizes. From the pre-test scores it is clear that certain medium to large differences exist between the processed and non-processed experimental groups with the largest differences occurring in the constructs Open Thinking ($d=0.98$), Self Confidence ($d=0.89$) and Quality Seeking ($d=0.80$). Medium differences exist between the processed and control group as well as the non-processed and control group. These pre-test differences will be considered when calculating the post-test scores.

Table 2. Effect sizes between the pre-test and post-test scores of the experimental and control groups respectively.

CONSTRUCT	Processed		Non-processed		Control	
	MEAN (SD)	<i>d</i>	MEAN (SD)	<i>d</i>	MEAN (SD)	<i>d</i>
Active involvement: AI	1.50 (2.91)	0.52*	-0.83 (1.64)	0.51*	0.20 (2.10)	0.09
Cooperative Teamwork: CT	1.42 (3.48)	0.41	-1.17 (4.04)	0.29	0.20 (2.94)	0.07
Leadership Ability: LA	1.75 (2.73)	0.64*	0.08 (1.24)	0.06	-0.10 (1.91)	0.05
Open Thinking: OT	1.42 (2.54)	0.56*	0.08 (3.12)	0.02	-0.30 (2.75)	0.10
Quality Seeking: QS	1.00 (2.00)	0.50*	-0.33 (1.67)	0.19	0.90 (2.60)	0.34
Self Confidence: SC	1.42 (1.98)	0.74**	0.58 (1.44)	0.40	1.30 (2.58)	0.50*
Self Efficacy: SF	1.58 (3.37)	0.47*	0.42 (2.11)	0.20	-0.30 (2.71)	0.11
Social Effectiveness: SE	0.83 (1.85)	0.45*	0.00 (2.45)	0.00	1.80 (4.94)	0.40
Stress Management: SM	1.33 (2.81)	0.47*	1.00 (1.76)	0.56*	0.60 (2.50)	0.24
Time Efficiency: TE	1.67 (2.23)	0.75**	0.75 (2.70)	0.28	0.90 (2.42)	0.40
Coping with change: CH	1.42 (2.68)	0.53*	1.42 (1.51)	0.94**	-0.70 (2.63)	0.27
Overall Effectiveness: OE	2.00 (2.81)	1.10**	-0.08 (3.55)	0.02	0.90 (2.18)	0.41
Internal Locus of Control: IL	0.92 (1.88)	0.49*	-0.92 (3.55)	0.26	-0.30 (1.89)	0.15
External locus of control: EL	-2.58 (2.87)	0.90**	-0.25 (1.86)	0.13	0.40 (2.67)	0.15

$d \approx 0.2$: Small effect with little practical significance; $*d \approx 0.5$: Substantial effect with possible practical significance
 $**d \approx 0.8$: Large effect with practical significance

The effect sizes between the pre and post-test scores of the respective groups are shown in Table 2. An overview of the results indicates that the control group experienced little change (apart from Self Confidence) during the study. In an overview of the results from the processed and non-processed groups it is clear that the processed programme accounted for more changes in personal effectiveness of participants. Results from the processed group indicate significant changes in four constructs (Self Confidence,

$d=0.74$; Time Efficiency, $d=0.75$; Overall Effectiveness, $d=1.10$; External Locus of Control, $d=0.90$) compared to the one significant change for the non-processed group (Coping with Change, $d=0.94$). The control group shows no significant changes. Furthermore the processed group experienced medium changes in nine constructs (Active Involvement, $d=0.52$; Leadership Ability, $d=0.64$; Open Thinking, $d=0.56$; Quality Seeking, $d=.50$; Self Confidence, $d=0.47$; Social Effectiveness, $d=0.45$; Stress Management, $d=0.47$; Coping with Change, $d=0.53$; Internal Locus of Control, $d=0.49$), while the non-processed group experienced only two medium changes (Leadership Ability, $d=0.51$; Stress Management, $d=0.56$) and the control group only one medium change (Self Confidence, $d=0.50$). It should, however, also be noted that the non-processed programme contributed to a decline in certain constructs, the most significant being the area of Active Involvement, where it can be highlighted that after the non-processed programme the participants were to a medium degree **less** effective than before. A possible explanation for this could be that, because no processing occurred prior to, during or after each activity, the participants did not get the opportunity to address and correct certain group or individual behaviour such as strong group members dominating activities and not giving others a chance to get actively involved. It is also interesting to note that the non-processed group seems to have experienced a significant increase in Coping with Change ($d=0.94$), a construct that shows only a medium change for the processed group ($d=0.53$). Although no scientific answer is available for this, it is possible that within the non-processed group, due to the fact that no processing occurred, group members had to adapt to the changing dynamics in their group, resulting in improved ability to cope with change.

Table 3. The inter-group differences in terms of effect sizes for the pre-post-test scores of the three groups.

CONSTRUCT	Pre-post Test Mean (SD)			Effect Sizes (<i>d</i>)		
	Processed (1)	Non-processed (2)	Control (3)	1 AND 2	1 AND 3	2 AND 3
Active involvement: AI	1.50 (2.91)	-0.83 (1.64)	0.20 (2.10)	0.80**	0.45*	0.49*
Cooperative Teamwork: CT	1.42 (3.48)	-1.17 (4.04)	0.20 (2.94)	0.64*	0.35	0.34
Leadership Ability: LA	1.75 (2.73)	0.08 (1.24)	-0.10 (1.91)	0.61*	0.68*	0.10
Open Thinking: OT	1.42 (2.54)	0.08 (3.12)	-0.30 (2.75)	0.43	0.62*	0.12
Quality Seeking: QS	1.00 (2.00)	-0.33 (1.67)	0.90 (2.60)	0.67*	0.04	0.47*
Self Confidence: SC	1.42 (1.98)	0.58 (1.44)	1.30 (2.58)	0.42	0.05	0.28
Self Efficacy: SF	1.58 (3.37)	0.42 (2.11)	-0.30 (2.71)	0.35	0.56*	0.26
Social Effectiveness: SE	0.83 (1.85)	0.00 (2.45)	1.80 (4.94)	0.34	0.20	0.36
Stress Management: SM	1.33 (2.81)	1.00 (1.76)	0.60 (2.50)	0.12	0.26	0.16
Time Efficiency: TE	1.67 (2.23)	0.75 (2.70)	0.90 (2.42)	0.34	0.32	0.06
Coping with change: CH	1.42 (2.68)	1.42 (1.51)	-0.70 (2.63)	0.00	0.79**	0.81**
Overall Effectiveness: OE	2.00 (1.81)	-0.08 (3.55)	0.90 (2.18)	0.59*	0.50*	0.28
Internal Locus of Control: IL	0.92 (1.88)	-0.92 (3.55)	-0.30 (1.89)	0.52*	0.64*	0.17
External locus of control: EL	-2.58 (2.87)	-0.25 (1.86)	0.40 (2.76)	0.81**	1.04**	0.24

d≈0.2: Small effect with little practical significance; **d*≈0.5: Substantial effect with possible practical significance
***d*≈0.8: Large effect with practical significance

Table 3 presents the inter-group differences, in terms of effect sizes, for the pre-post test scores of the three groups. Results indicate significant differences between the processed and non-processed groups in terms of Active Initiative ($d=0.80$) and External Locus of Control ($d=0.81$). Medium differences between the two groups are also found for Cooperative Teamwork ($d=0.64$), Leadership Ability ($d=0.61$), Quality Seeking ($d=0.67$), Overall Effectiveness ($d=0.59$) and Internal Locus of Control ($d=0.52$).

Table 4. Effect sizes of post-test scores for the groups controlling for the pre-test score differences

CONSTRUCT	LSMEAN Processed (1)	LSMEAN Non-processed (2)	LSMEAN Control (3)	ROOT MSE	EFFECT SIZES		
					1 and 2	1 and 3	2 and 3
Active involvement: AI	21.30	19.21	19.98	1.94	1.08**	0.68*	0.40
Cooperative Teamwork: CT	20.89	18.78	18.98	2.70	0.78**	0.33	0.44
Leadership Ability: LA	20.80	19.53	19.40	1.94	0.65*	0.72*	0.07
Open Thinking: OT	20.93	20.34	19.67	2.73	0.54*	0.28	0.26
Quality Seeking: QS	20.91	20.13	20.95	2.01	0.39	0.02	0.40
Self Confidence: SC	21.47	21.02	21.51	2.00	0.23	0.02	0.25
Self Efficacy: SF	19.07	18.08	17.30	2.77	0.36	0.64*	0.28
Social Effectiveness: SE	19.59	18.75	19.69	3.12	0.27	0.03	0.30
Stress Management: SM	18.23	17.90	17.55	2.37	0.14	0.29	0.15
Time Efficiency: TE	17.18	16.39	16.32	2.45	0.32	0.35	0.03
Coping with change: CH	19.39	19.57	17.75	2.14	0.08	0.74*	0.85**
Overall Effectiveness: OE	20.31	18.55	19.26	2.66	0.66*	0.39	0.27
Internal Locus of Control: IL	21.75	20.44	21.07	2.44	0.54*	0.28	0.26
External locus of control: EL	8.74	11.05	11.65	2.56	0.90**	1.14**	0.23

$d \approx 0.2$: Small effect with little practical significance; * $d \approx 0.5$: Substantial effect with possible practical significance
** $d \approx 0.8$: Large effect with practical significance

The effect sizes of the post-test scores for the groups, controlling for the pre-test score differences are presented in Table 4. From this analysis it shows that large effect sizes were achieved between the two processed and non-processed groups for Active Involvement ($d=1.08$), Cooperative Teamwork ($d=0.78$) and External Locus of Control ($d=0.90$). Medium effect sizes were achieved for Leadership Ability ($d=0.65$), Open Thinking ($d=0.54$), Overall Effectiveness ($d=0.66$) and Internal Locus of Control ($d=0.54$).

DISCUSSION

The results from the pre-post test scores indicate that the processed programme had a medium to large effect on most constructs of personal effectiveness of the participants. Compared to the non-processed and control group there is a strong indication that processing plays a vital part in the success of AEL programmes. In fact, investigation

into the pre-post-test scores of the non-processed group indicates decreases in certain constructs of personal effectiveness such as Active Involvement, Cooperative Teamwork, Quality Seeking and Internal Locus of Control. Possible explanations can be that, without skilled processing, group members were not capable of learning from their experiences and addressing negative behaviour in the group. This could have resulted in a decline in involvement, poorer teamwork, a lack of desire to perform well and a decrease in feelings of being in control of situations.

From the inter-group effect sizes it is clear that medium to large effect sizes exist between the processed and non-processed groups. As a result these findings support the assumption by Beard (1996), Priest (1996), Priest & Gass (1997), McEvoy & Buller (1997), DuFrene et al. (1999) and Miner (1999) that processing plays an important role in achieving programme outcomes.

Post-test scores, controlling for pre-test score differences, illustrates that after participation in the programme the processed group differed significantly from the non-processed group in terms of Active Involvement, Cooperative Teamwork, and External Locus of Control. A medium sized difference between these two groups also exists for Leadership Ability, Open Thinking, Overall Effectiveness and Internal Locus of Control. From these results it can be mentioned that after participation in the AEL programme, the processed group was, to a medium to large degree, personally more effective than the non-processed group.

Although these results shed light on the importance of processing in AEL programmes, many questions still remain. Firstly, as stated in the introduction of this paper, processing has evolved over time, with different approaches and processing techniques emerging (DuFrene et al., 1999); (McKenzie, 2000). As this study mainly used combinations of frontloading and metaphoric debriefing as processing techniques the effectiveness of other techniques or combinations thereof should be investigated. Furthermore, the influence of the amount of time dedicated to processing should be investigated to determine whether longer processing will yield better results.

CONCLUSION

In conclusion, the study supports the notion that processing plays an important role in the improvement of personal effectiveness through AEL. Furthermore, the results suggest that by not processing AEL, programmes can lead to a decrease in personal effectiveness of participants. Furthermore, as it is possible that the use of the Accountability Model (Peterson & Stumbo, 2000) contributed to the findings of this study, the influence of various programme design models on the achievement of programme outcomes should be investigated.

REFERENCE

Beard, C. (1996). Environmental training: Emerging products. *Industrial and Commercial Training*, 28(5), 18-23.

Berman, D.S. & Davis-Berman, J. (2005). Positive psychology and outdoor education. *Journal of Experiential Education*, 28(1), 17-24.

Brown, M. (2002). The facilitator as gatekeeper: A critical analysis of social order in facilitation sessions. *Journal of Adventure Education and Outdoor Learning*, 2(2), 101-112.

DuFrene, D.D., Sharbrough, W., Clipson, T. & McCall, M. (1999). Bringing outdoor challenge education inside the business communication classroom. *Business Communication Quarterly*, 62(3), 24-36, September.

Faul, A.C. & Hanekom, A.J. (2005). *Leadership Qualities Inventory (LQI) Technical Manual* (pp. 1-20). Potchefstroom: Perspektief Training College.

Gass, M. & Gillis, H.L. (1995). Focussing on the “solution” rather than the “problem”: Empowering client change in adventure experiences. *Journal of Experiential Education*, 18(2), 63-69.

Gass, M.A. & Priest, S. (2006). The effectiveness of metaphoric facilitation styles in Corporate Adventure Training (CAT) programs. *Journal of Experiential Education*, 29(1), 78-94.

Hattie, J.A., Marsh, H.W., Neill, J.T. & Richards, G.E. (1997). Adventure education and Outward Bound: Out-of-class experiences that make a lasting difference. *Review of Educational Research*, 67, 43-83.

Luckner, J.L. & Nadler, R.S. (1997). *Processing the Experience: Strategies to Enhance and Generalize Learning* (2nd ed.). Dubuque, IA: Kendall/Hunt. 418 p.

McEvoy, G.M. & Buller, P.F. (1997). The power of outdoor management development. *Journal of Management Development*, 16(3), 208-217.

McKenzie, M.D. (2000). How are adventure education program outcomes achieved?: A review of the literature. *Australian Journal of Outdoor Education*, 5(1), 19-28.

Miner, T. (1999). Adventure in the workplace. In J. Miles and M.A. Priest (Eds.), *Adventure Programming*. (pp. 395-401). State College, Pa.: Venture.

Neill, J.T. (2002). Meta-analytic research on the outcomes of outdoor education. Paper presented to the 6th biennial coalition for education in the outdoors research symposium, 11-13 Jan., Bradford Woods, IN.

Nunnally, J.C. & Bernstein, I.H. (1994). *Psychometric Theory*. New York: McGraw-Hill. 752 p.

Peterson, C.A. & Stumbo, N.J. (2000). *Therapeutic Recreation Program Design: Principles and Procedures* (3rd ed.). Needham Heights, Mass.: Allyn and Bacon. 370 p.

Priest, S. (1996). A research summary of Corporate Adventure Training (CAT) and Experience-based Training and Development (EBTD). In 3rd Coalition for education in the outdoors research symposium proceedings, 12-14 Jan. 1996 (pp. 2-16). Bradford Woods, IN.

Priest, S. & Gass, M.A. (1997). *Effective Leadership in Adventure Programming*. Champaign: Human Kinetics. 316 p.

Richards, G.E., Ellis, L.A. & Neill, J.T. (2002). The ROPELOC: Review of personal effectiveness and locus of control: A comprehensive instrument for reviewing life effectiveness. Paper presented at Self Concept Research: Driving international research agendas, 6-8 August 2002, Sydney. (*online*), at <http://www.wilderdom.com/abstractsRichardsEllisNeill2002ROPELOCComprehensiveInstrumentReviewingPersonalEffectiveness.htm>. 9 June 2005.

Rushmer, R.K. (1997). How do we measure the effectiveness of Team building? Is it good enough? *Journal of Management Development*, 16(2/3), 93-111.

Strydom, H. & De Vos, A.S. (2001). Sampling and sampling methods. In A.S. de Vos, (Ed.), *Research at Grass Roots: A Primer for the Caring Professions* (pp. 189-201). Pretoria: Van Schaik.

5 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

5.1. Summary

5.2. Conclusions

5.3. Recommendations

5.4. Source List

5.1. SUMMARY

For the purpose of the study the effectiveness of AEL in improving personal effectiveness of adolescents was investigated. Secondly, the study aimed to determine whether a processed AEL programme is more effective in improving personal effectiveness of adolescents than a non-processed AEL programme. A brief outline of the problem statement that serves as foundation of the research questions and hypothesis of the study is discussed in Chapter 1.

A review of relevant literature (Chapter 2) introduces the theoretical foundations of Adventure-based Experiential Learning. Firstly, the concept of adventure along with the various constructs that play a part in the adventure experience, is analysed. Secondly, the development of personal effectiveness through AEL is discussed, along with the benefits associated with high levels of personal effectiveness. This is followed by a section regarding the importance and methodology of experiential learning as it relates to AEL. Lastly, and probably most importantly, attention is given to the development of AEL through the use of an adapted Accountability Model, as suggested by Peterson and Stumbo (2000:107-108). This section also highlights the importance of processing of experiences as a key ingredient not only in the experiential learning process, but in the whole design of an AEL programme.

This dissertation is submitted in article format, as approved by the Senate of the North-West University and, therefore, two articles (Chapter 3 and 4) are included.

5.2. CONCLUSIONS

The first article entitled “The effect of adventure-based experiential learning on personal effectiveness of adolescents” indicates that AEL is indeed medium to largely effective in improving personal effectiveness of adolescents. Results indicate that overall effect sizes are higher than the suggested benchmark of 0.40 (Neill, 2003:320). As concluded from the findings in this article, the following hypothesis, as set out in Chapter 1, is accepted:

- **Hypothesis 1:** Adventure-based experiential learning is effective in improving the personal effectiveness of participants.

As the literature (Priest & Gass, 1997:17) suggests that AEL is effective as a result of experiential learning that actively involves participants in the learning process, it is proposed that the use of an accountability approach to programme design assists programmers in creating suitable and relevant experiential learning experiences that are conducive to learning and growth.

The second article entitled “The effect of processing on the personal effectiveness outcomes of adventure-based experiential learning programmes for adolescents” indicated that a processed AEL programme is more effective in improving personal effectiveness of adolescents than a non-processed AEL programme. Therefore, from these findings, the following hypothesis, as set out in Chapter 1, is accepted:

- **Hypothesis 2:** A processed adventure-based experiential learning programme will produce higher short-term outcomes in terms of participants’ personal effectiveness than a non-processed programme.

From article 2 it is clear that processing is important in achieving programme outcomes. Possible explanations could be the fact that processing heightens awareness of participants and creates motivation and need for change. Furthermore, processing highlights learning points in an activity and helps participants distil the learning that took place.

5.3. RECOMMENDATIONS

The results from this study emphasize the importance of research regarding the effectiveness of different types of AEL programmes. Only through scientific research can the use of AEL in any form be justified as an effective developmental instrument. Furthermore, although the use of the Accountability Model by Peterson and Stumbo (2000:60) seems to achieve positive results, research regarding the effectiveness of different programme planning models is recommended.

The study also gives rise to questions regarding the processing of experiences during AEL. Although the findings indicate that processing is an important factor in the success of AEL, research regarding the type of processing, as well as the amount of time spent processing an activity is lacking. It is, therefore, recommended that future research should focus on 1) the effect of different processing techniques on the achievement of programme outcomes, and 2) the effect duration of processing on the achievement of programme outcomes.

Lastly, the study supports the recommendation by Neill (2002) that researchers in the field of AEL provide more detail regarding programme type, duration and participants.

Certain shortcomings in this study can, however, be indicated:

- The study used only a small sample. The results from this study will, therefore, be difficult to generalize. As this is a common problem in the field of AEL, a possible solution could be the use of meta-analysis of results from programme studies of similar type, duration and participants in order to determine the effectiveness of these programmes. It is, furthermore, suggested that future research should make use of qualitative studies to determine the effectiveness of AEL programmes. This suggestion supports statements by McAvoy *et al.* (1996:59) and Epstein (2004:108) regarding the use of qualitative studies.
- The study did not investigate the long term effect of the various AEL programmes on personal effectiveness. It is, therefore, suggested that future

research should conduct follow-up tests to determine the sustainability of the outcomes over time.

5.4. REFERENCES

EPSTEIN, I. 2004. Adventure therapy: a mental health promotion strategy in paediatric oncology. *Journal of paediatric oncology nursing*, 21(2):103-110. Mar.

McAVOY, L.H., MITTEN, D.S., STINGER, L.A., STRECKART, J.P. & SPROLES, K. 1996. Group development and group dynamics in outdoor education. (*In* Coalition for Education in the Outdoors Research Symposium proceedings, 3rd, Bradford Woods, Ind., Jan. 12-14. p. 51-62.)

NEILL, J.T. 2002. Meta-analytic research on the outcomes of outdoor education. Paper presented to the 6th biennial coalition for education in the outdoors research symposium, 11-13 Jan., Bradford Woods, Ind.

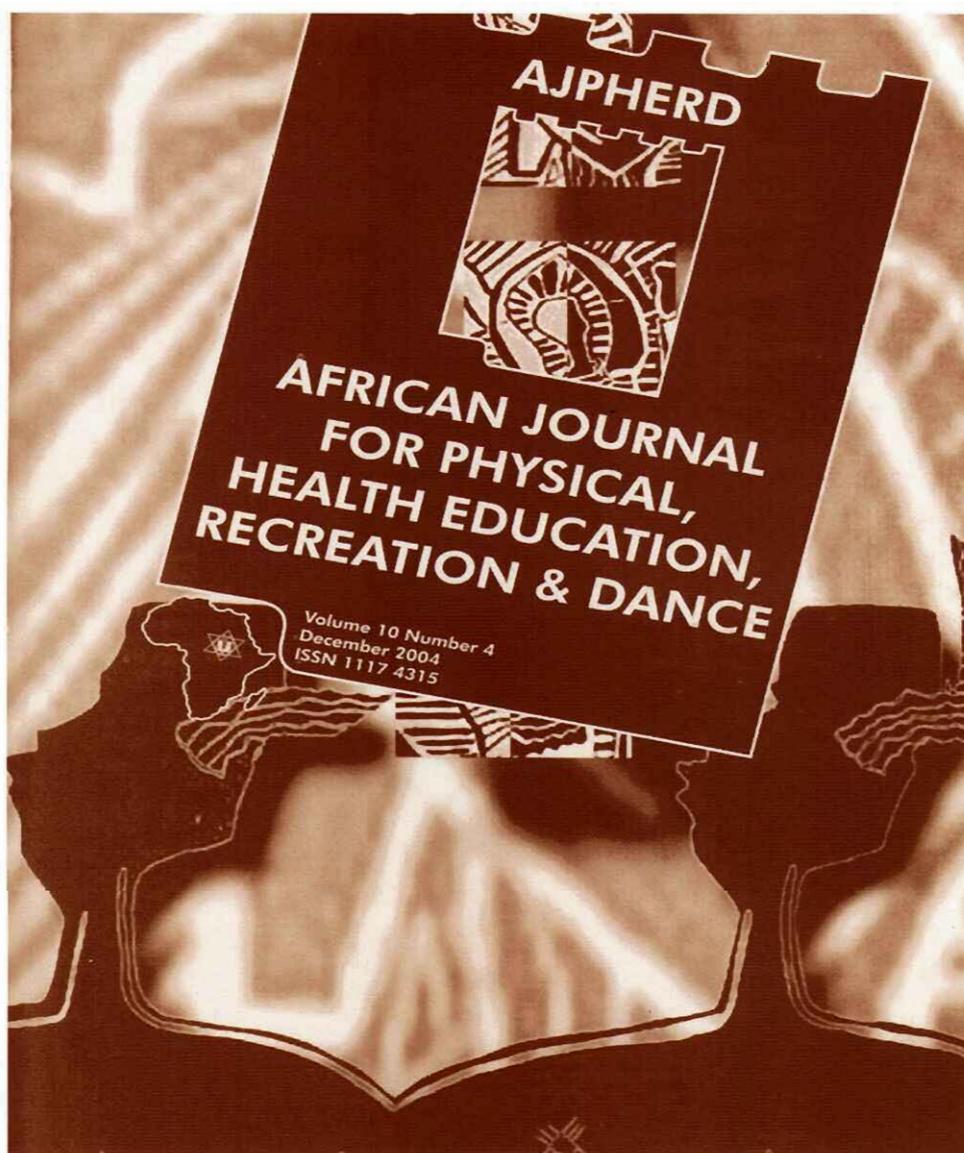
NEILL, J.T. 2003. Reviewing and benchmarking adventure therapy outcomes: applications of meta-analysis. *Journal of Experiential Education*, 25(3), 316-321.

PETERSON, C.A. & STUMBO, N.J. 2000. Therapeutic recreation program design: principles and procedures. Mass.: Allyn and Bacon. 370 p.

PRIEST, S. & GASS, M.A. 1997. Effective leadership in adventure programming. Champaign, Ill: Human Kinetics. 316 p.

APPENDIX A

Guidelines for contributors: African Journal for Physical, Health Education, Recreation and Dance



GUIDELINES FOR AUTHORS

The African Journal for Physical, Health Education, Recreation and Dance (AJPHERD) is a peer-reviewed journal established to:

- i) provide a forum for physical educators, health educators, specialists in human movement studies and dance, as well as other sport-related professionals in Africa, the opportunity to report their research findings based on African settings and experiences, and also to exchange ideas among themselves.
- ii) afford the professionals and other interested individuals in these disciplines the opportunity to learn more about the practice of the disciplines in different parts of the continent.
- iii) create an awareness in the rest of the world about the professional practice in the disciplines in Africa.

GENERAL POLICY

AJPHERD publishes research papers that contribute to knowledge and practice, and also develops theory either as new information, reviews, confirmation of previous findings, application of new teaching/coaching techniques and research notes. Letters to the editor relating to the materials previously published in AJPHERD could be submitted within 3 months after publication of the article in question. Such letter will be referred to the corresponding author and both the letter and response will be published concurrently in a subsequent issue of the journal.

Manuscripts are considered for publication in AJPHERD based on the understanding that they have not been published or submitted for publication in any other journal. In submitting papers for publication, corresponding authors should make such declarations. Where part of a paper has been published or presented at congresses, seminars or symposia, reference to that publication should be made in the acknowledgement section of the manuscript.

AJPHERD is published quarterly, i.e. in March, June, September and December. Supplements/Special editions are also published periodically.

SUBMISSION OF MANUSCRIPT

Three copies of original manuscript and all correspondence should be addressed to the Editor-In-Chief:

Professor L. O. Amusa
Centre for Biokinetics, Recreation
and Sport Science, University of Venda for
Science and Technology, P. Bag X5050,
Thohoyandou 0950
Republic of South Africa

Tel: +27 15 9628076
Fax: +27 15 9628647/9628035
E-mail: amusalbw@yahoo.com

Articles can also be submitted electronically, i.e. via e-mail attachment. However, the corresponding author should ensure that such articles are virus free. AJPHERD reviewing process normally takes 4-6 weeks and authors will be advised about the decision on submitted manuscripts within 60 days. In order to ensure anonymity during the reviewing process authors are requested to avoid self-referencing or keep it to the barest minimum.

PREPARATION OF MANUSCRIPT

Manuscripts should be type written in fluent English (using 12-point Times New Roman font and 1½ line-spacing) on one side of white A4-sized paper justified fully with 3cm margin on all sides. In preparing manuscripts, MS-Word, Office 98 or Office 2000 for Windows should be used. Length of manuscripts should not normally exceed 12 printed pages (including tables, figures, references, etc.). For articles exceeding 12 typed pages US\$ 10.0 is charged per every extra page. Longer manuscripts may be accepted for publication as supplements or special research reviews. Authors will be requested to pay a publication charge of US\$ 150.0 to defray the very high cost of publication.

Title page:

The title page of the manuscript should contain the following information:

Concise and informative title.

Author(s) name(s) with first and middle initials. Authors' highest qualifications and main area of research specialisation should be provided.

Author(s) institutional addresses, including telephone and fax numbers.

Corresponding author's contact details, including e-mail address.

A short running title of not more than 6 words.

Abstract

An abstract of 200-250 words is required with up to a maximum of 5 words provided below the abstract. Abstract must be typed on a separate page using single line spacing, with the purpose of the study, methods, major results and conclusions concisely presented. Abbreviations should either be defined or excluded.

Text

Text should carry the following designated headings: Introduction, materials and methods, results, discussion, acknowledgement, references and appendices (if appropriate).

Introduction

The introduction should start on a new page and in addition to comprehensively giving the background of the study should clearly state the problem and purpose of the study. Authors should cite relevant references to support the basis of the study. A concise but informative and critical literature review is required.

Materials and Methods

This section should provide sufficient and relevant information regarding study participants, instrumentation, research design, validity and reliability estimates, data collection procedures, statistical methods and data analysis techniques used. Qualitative research techniques are also acceptable.

Results

Findings should be presented precisely and clearly. Tables and figures must be presented separately or at the end of the manuscript and their appropriate locations in the text indicated. The results section should not contain materials that are appropriate for presentation under the discussion section. Formulas, units and quantities should be expressed in the *systeme internationale (SI)* units. Colour printing of figures and tables is expensive and could be done upon request authors' expense.

Discussion

The discussion section should reflect only important aspects of the study and its major conclusions. Information presented in the results section should not be repeated under the discussion. Relevant references should be cited in order to justify the findings of the study. Overall, the discussion should be critical and tactfully written.

References

The American Psychological Association (APA) format should be used for referencing. Only references cited in the text should be alphabetically listed in the reference section at the end of the article. References should not be numbered either in the text or in the reference list.

Authors are advised to consider the following examples in referencing:

Examples of citations in body of the text:-

For one or two authors; Kruger (2003) and Travill and Lloyd (1998). These references should be cited as follows when indicated at the end of a statement: (Kruger, 2003); (Travill & Lloyd, 1998).

For three or more authors cited for the first time in the text; Monyeki, Brits, Mantsena and Toriola (2002) or when cited at the end of a statement as in the preceding example; (Monyeki, Brits, Mantsena & Toriola, 2002). For subsequent citations of the same reference it suffices to cite this particular reference as: Monyeki et al. (2002).

Multiple references when cited in the body of the text should be listed chronologically in ascending order, i.e. starting with the oldest reference. These should be separated with semi colons. For example, (Tom, 1982; McDaniels & Jooste, 1990; van Heerden, 2001; de Ridder et al., 2003).

Reference List

In compiling the reference list at the end of the text the following examples for journal references, chapter from a book, book publication and electronic citations should be considered:

Examples of journal references:

Journal references should include the surname and initials of the author(s), year of publication, title of paper, name of the journal in which the paper has been published, volume and number of journal issue and page numbers.

For one author: McDonald, A.K. (1999). Youth sports in Africa: A review of programmes in selected countries. *International Journal of Youth Sports*, 1(4), 102-117.

For two authors: Johnson, A.G. & O'Kefee, L.M. (2003). Analysis of performance factors in provincial table tennis players. *Journal of Sport Performance*, 2(3), 12-31.

For multiple authors: Kemper, G.A., McPherson, A.B., Toledo, I. & Abdullah, I.I. (1996). Kinematic analysis of forehand smash in badminton. *Science of Racket Sports*, 24(2), 99-112.

Examples of book references:

Book references should specify the surname and initials of the author(s), year of publication of the book, title, edition, page numbers written in brackets, city where book was published and name of publishers. Chapter references should include the name(s) of the editor(s) and other specific information provided in the third example below:

For authored references: Amusa, L.O. & Toriola, A.L. (2003). *Foundations of Sport Science* (1st ed.) (pp. 39-45). Mokopane, South Africa: Dynasty Printers.

For edited references: Amusa, L.O. and Toriola, A.L. (Eds.) (2003). *Contemporary Issues in Physical Education and Sports* (2nd ed.) (pp. 20-24). Mokopane, South Africa: Dynasty Printers.

For chapter references in a book: Adams, L.L. & Neveling, I.A. (2004). Body fat characteristics of sumo wrestlers. In J.K. Manny and F.O. Boyd (Eds.), *Advances in Kinanthropometry* (pp. 21-29). Johannesburg, South Africa: The Publishers Company Ltd.

Example of electronic references:

Electronic sources should be easily accessible. Details of Internet website links should also be provided fully. Consider the following example:

Wilson, G.A. (1997). Does sport sponsorship have a direct effect on product sales? *The Cyber-Journal of Sport Marketing (online)*, October, 1(4). at <http://www.cad.gu.au/cjsm/wilson.html>. February 1997.

PROOFREADING

Manuscript accepted for publication may be returned to the author(s) for final correction and proofreading. Corrected proofs should be returned to the Editor-In-Chief within one week of receipt. Minor editorial corrections are handled by AJPHRD.

COPYRIGHT AGREEMENT

The Africa Association for Health, Physical Education, Recreation, Sport and Dance (AFAHPER-SD) holds the copyright for AJPHRD. In keeping with copyright laws, authors will be required to assign copyright of accepted manuscripts to AFAHPER-SD. This ensures that both the publishers and the authors are protected from misuse of copyright information. Requests for permission to use copyright materials should be addressed to the Editor-in-Chief.

COMPLIMENTARY COPY OF AJPHRD AND REPRINTS

Principal authors will receive ten (10) complimentary copies of the relevant pages in which their article has been published. In case of two or more joint authors the principal author distributes the copies to the co-authors. Reprints of published papers can be ordered using a reprint order form that will be sent to the corresponding author before publication. Bound copies of the journal may be ordered from: Dynasty Printers, 26 Pretorius Street, Mokopane 0600, South Africa. Tel: +27 15 4914873; Fax: +27 15 4916411; E-mail: Ahmed@dynastyprinters.com; website: www.dynastyprinters.com

APPENDIX B

Review of Personal Effectiveness with Locus of Control (ROPELOC)

NAME: _____ AGE: _____ (years) _____ (mths) DATE: ____ / ____ / ____

MALE / FEMALE (circle one) PROGRAM: _____ GROUP: _____

ROPELOC©

GER20/9/00

PLEASE READ THESE INSTRUCTIONS FIRST
This is not a test - there are no right or wrong answers.

This is a chance for you to look at how you think and feel about yourself. It is important that you:

- are honest
- give your own views about yourself, without talking to others
- report how you feel NOW (not how you felt at another time in your life, or how you might feel tomorrow)

Your answers are confidential and will only be used for research or program development. Your answers will not be used in any way to refer to you as an individual.

Use the eight point scale to indicate how true (like you) or how false (unlike you), each statement over the page is as a description of you. Please do not leave any statements blank.

FALSE
NOT LIKE ME

TRUE
LIKE ME

1 2
This statement doesn't
describe me at all; it isn't
like me at all

3 4
More false
than true

5 6
More true
than false

7 8
This statement
describes me very well;
it is very much like me.

SOME EXAMPLES

A. *I am a creative person.*

1 2 3 4 5 6 7 8

(The 6 has been circled because the person answering believes the statement "I am a creative person" is sometimes true. That is, the statement is sometimes like him/her.)

B. *I am good at writing poetry.*

1 2 3 4 5 6 7 8

(The 2 has been circled because the person answering believes that the statement is mostly false as far as he/she is concerned. That is, he/she feels he/she does not write good poetry.)

C. *I enjoy playing with pets.*

1 2 3 4 5 6 7 8

(The 6 has been circled because at first the person thought that the statement was mostly true but then the person corrected it to 7 to show that the statement was very true about him/her.)

If still unsure about what to do, ASK FOR HELP.

STATEMENT	FALSE not like me								TRUE like me									
01. When I have spare time I always use it to paint.	1	2	3	4	5	6	7	8										
02. I like cooperating in a team.	1	2	3	4	5	6	7	8										
03. No matter what the situation is I can handle it	1	2	3	4	5	6	7	8										
04. I can be a good leader.	1	2	3	4	5	6	7	8										
05. My own efforts and actions are what will determine my future.	1	2	3	4	5	6	7	8										
06. I prefer to be actively involved in things.	1	2	3	4	5	6	7	8										
07. I am open to different thinking if there is a better idea.	1	2	3	4	5	6	7	8										
08. In everything I do I try my best to get the details right.	1	2	3	4	5	6	7	8										
09. Luck, other people and events control most of my life.	1	2	3	4	5	6	7	8										
10. I am confident that I have the ability to succeed in anything I want to do.	1	2	3	4	5	6	7	8										
11. I am effective in social situations.	1	2	3	4	5	6	7	8										
12. I am calm in stressful situations.	1	2	3	4	5	6	7	8										
13. My overall effectiveness in life is very high.	1	2	3	4	5	6	7	8										
14. I plan and use my time efficiently.	1	2	3	4	5	6	7	8										
15. I cope well with changing situations.	1	2	3	4	5	6	7	8										
16. I cooperate well when working in a team.	1	2	3	4	5	6	7	8										
17. I prefer things that taste sweet instead of bitter.	1	2	3	4	5	6	7	8										
18. No matter what happens I can handle it.	1	2	3	4	5	6	7	8										
19. I am capable of being a good leader.	1	2	3	4	5	6	7	8										
20. I like being active and energetic.	1	2	3	4	5	6	7	8										
21. What I do and how I do it will determine my successes in life.	1	2	3	4	5	6	7	8										
22. I am open to new thoughts and ideas.	1	2	3	4	5	6	7	8										
23. I try to get the best possible results when I do things.	1	2	3	4	5	6	7	8										
24. When I apply myself to something I am confident I will succeed.	1	2	3	4	5	6	7	8										
25. My future is mostly in the hands of other people.	1	2	3	4	5	6	7	8										
26. I am competent and effective in social situations.	1	2	3	4	5	6	7	8										
27. I can stay calm and overcome anxiety in almost all situations.	1	2	3	4	5	6	7	8										
28. I am efficient and do not waste time.	1	2	3	4	5	6	7	8										
29. Overall, in all things in life, I am effective.	1	2	3	4	5	6	7	8										
30. When things around me change I cope well.	1	2	3	4	5	6	7	8										
31. I am good at cooperating with team members.	1	2	3	4	5	6	7	8										
32. I can handle things no matter what happens.	1	2	3	4	5	6	7	8										
33. I solve all mathematics problems easily.	1	2	3	4	5	6	7	8										
34. I am seen as a capable leader.	1	2	3	4	5	6	7	8										
35. I like to get into things and make action.	1	2	3	4	5	6	7	8										
36. I can adapt my thinking and ideas.	1	2	3	4	5	6	7	8										
37. If I succeed in life it will be because of my efforts.	1	2	3	4	5	6	7	8										
38. I try to get the very best results in everything I do.	1	2	3	4	5	6	7	8										
39. I am confident in my ability to be successful.	1	2	3	4	5	6	7	8										
40. I communicate effectively in social situations.	1	2	3	4	5	6	7	8										
41. My life is mostly controlled by external things.	1	2	3	4	5	6	7	8										
42. I am calm when things go wrong.	1	2	3	4	5	6	7	8										
43. I am efficient in the way I use my time.	1	2	3	4	5	6	7	8										
44. I cope well when things change.	1	2	3	4	5	6	7	8										
45. Overall, in my life I am a very effective person.	1	2	3	4	5	6	7	8										