

## **Risk Management and Outdoor Education: a practical approach to ensuring positive outcomes**

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*"A life without adventure is likely to be unsatisfying, but a life in which adventure is allowed to take whatever form it will, is likely to be short"*  
(Bertrand Russell).

### **Abstract**

*Adventure, risk and challenge are often used to develop participants personal and leadership qualities during an outdoor education program. The exposure of participants to adventure, risk and challenge may also put them into contact with hazards that may cause negative program outcomes or result in participant or leader injury.*

*Stress, injury and serious harm are all outcomes of an outdoor education program that has not been planned and conducted safely. Program hazards may be a result of an oversight in the program planning process or a failure to identify appropriate strategies to reduce the likelihood of, or manage incidents during the conduct of the outdoor education program.*

*To minimise program hazards and risk of injury, outdoor educators need to be able to identify, reduce and control hazards. In most instances a practical step-by-step process for identifying potential program hazards and for documenting appropriate risk reduction and risk management strategies will assist outdoor educators in this task. This paper outlines a practical risk management process that outdoor educators may wish to use.*

### **Introduction**

An outdoor education program may have a range of outcomes. Program outcomes may focus on academic, social, or skill development or a combination of these depending upon the client group. To achieve program outcomes, an outdoor educator may use adventure, risk and challenge to enhance participant learning and the acquisition of knowledge.

Combined, adventure, risk and challenge offer a powerful medium for personal growth and development by building self esteem and self confidence. In a team-building situation, these elements may also allow participants to develop trust, leadership and judgement. However, when using the elements of adventure, risk and challenge outdoor educators need to ensure that their programs satisfy three important criteria:

1. Programs have identifiable aims and objectives;
2. The most appropriate site has been selected to achieve these aims; and
3. The planned activity is based on a sound risk management strategy.

Identifiable program aims and objectives will allow program outcomes to be measured. The selection of the most appropriate site will also ensure that program outcomes are attained while minimising unnecessary social and environmental impacts (Batt 1990). However, program success will largely depend on the maintenance of the physical and emotional safety of participants. The development and implementation of a sound risk management strategy will ensure this element is achieved.

The development of a risk management strategy is not a new concept, or a concept that many outdoor educators are unfamiliar with. Safety is a common goal of many outdoor education programs. Risk identification, risk assessment and risk reduction are all parts of a process that we do as a matter of course, consciously and subconsciously, before and during an outdoor education program. Some outdoor educators may implement formal processes to comply with their organisational policies, occupational health and safety or insurance requirements while others may implement informal safeguards as part of good practice.

Risk management planning is not a new concept in the literature either. Many authors, including Brown (1993, 1995), Ewert (1983), Priest and Martin (1986) and the Tasmanian Outdoor Leadership Council (1993) have published articles, conducted workshops and short courses on this very topic. The Outdoor Recreation Council of Australia (ORCA) convened a conference on this issue in 1996. They brought together many experts on risk management planning in an attempt to address the complex nature that is '*risk management*'. Outdoor leaders from Australia, New Zealand and the United States spoke and conducted workshops as did land managers, insurance officers and legal experts. However, much of the literature on this topic is not user friendly, it is too theoretical and does not address the needs of many practitioners. It does not provide outdoor educators with the practical means to construct and implement a simple but effective risk management plan.

This paper draws together the work of the authors mentioned above in an attempt to provide fellow outdoor educators with a practical planning process for making informed judgements about risk management, programming and safety.

## Managing Risk

Managing risk in outdoor education hinges on the reduction of the degree of real risk to a level considered acceptable to everyday exposure. Understandably, this aim may be an objective of any outdoor program where risk of injury is inherent. Safety, is a paramount consideration, however, it cannot be guaranteed. This is because there are many

factors over which little or no control can be exerted (eg. sudden rock fall, gear failure, human error, or inclement weather). In most cases it is more practical to reduce risk than to impose a rigid set of safety standards or safety precautions. Risk management planning is an attempt to identify particular hazards of an activity and devise strategies to neutralise or minimise their potential to cause injury (or death) to participants (Ewert 1983).

There are 3 main steps to the management of risk in any outdoor education program:

1. Risk Identification;
2. Risk Assessment; and
3. Risk Reduction (Brown 1995, TOLC 1996).

Combined, these three steps form the basis of a comprehensive Risk Management Strategy. A fourth step that has been added to this process is the development of a Risk Management Plan which anticipates a range of undesired events which may occur during program conduct. A Risk Management Plan establishes a preferred course of action to minimise the occurrence of an undesired event. Each of these steps, and the practical application/implementation of these steps are summarised below.

### 1. Risk Identification

Risk Identification primarily involves the identification of the dangers or hazards that can give rise to risk and thereby causing an incident or culminating in an accident. Three factors need to be considered when identifying risks: the participants, the equipment and the environment (TOLC 1996). For example, if we consider the risks associated with a rockclimbing and abseiling program, you may immediately think of rock stability, inappropriate clothing and size of group. Other risks may include access, vegetation, weather, footwear, climbing equipment, participant age, skill level and knowledge (Table 1).

Many of the hazards listed in Table 1 are visible and easily identified. These can be managed and the potential risk reduced. For example:

- with sharp rock edges - use rope protectors, hessian, or other means to protect the rope;

- for inappropriate clothing - do up, tuck in, take off, and have students remove jewellery;

- for large groups - split, use back-up belayers, or hire more instructors.

*Table 1: Hazards (inherent and potential) of a rockclimbing and/or abseiling program*

Participants	Equipment	Environment
<ul style="list-style-type: none"> <li>• size of the group</li> <li>• skills (belay/climb/abseil)</li> <li>• knowledge/experience</li> <li>• health</li> <li>• age</li> <li>• emotional attributes</li> <li>• attitudes</li> </ul>	<ul style="list-style-type: none"> <li>• clothing</li> <li>• footwear</li> <li>• helmets</li> <li>• harnesses</li> <li>• ropes</li> <li>• karabiners, figure "8's" etc.</li> </ul>	<ul style="list-style-type: none"> <li>• rock stability</li> <li>• anchor stability</li> <li>• overhanging tree branches</li> <li>• rock edges</li> <li>• cliff access: top and bottom</li> <li>• weather conditions</li> </ul>

There are also less definable hazards. These hazards are primarily related to the participant's attitude and state of mind. They include complacency, peer pressure, inability to manage stress and distractions. The greater the potential for overlap in any of these hazards and those hazards which are easily identified, the greater the potential for an accident to occur. Therefore, risk identification should include the identification of all likely risk combinations (eg. participants/equipment/environment hazards - potential and likely).

The next time you are planning an outdoor education program, write down all of the inherent and potential hazards associated with the activity. Then categorise them as either participant, equipment or environment related. (You may also need to make allowances for the instructors you plan to use). You are now ready to undertake the next step.

## 2. Risk Assessment

The degree of risk and the probability of an incident occurring relates to the assessment of risk. To assess the level of risk in an outdoor education program will require an evaluation of the amount of risk identified and the likelihood of an incident or accident occurring (TOLC 1996). In part, this will be based upon the experience of the leader, knowledge of the proposed site, the activity to be conducted, and the level of confidence/competence of the group.

In some cases, an assessment of risk may have already been carried out at an organisational policy level to meet certain aspects of their operation. It may be to comply

with industry standards, government policy or insurance requirements. For example, in Queensland, Education Queensland has assessed rockclimbing at level 3 or "high risk" and canoeing on grade II water at level 4 (very high risk) in their Workplace, Health and Safety Guidelines document (QDOEM 1996). Currently, there is no requirement for Queensland school teachers to have an instructor's qualification at level 3. This means that Queensland teachers (with appropriate experience) are allowed to conduct top-rope climbing, bouldering and abseiling programs on single pitch cliffs or walls at the discretion of their school principal.

An instructor's qualification is only required for level 4 "very high risk" activities or areas (QDOEM 1996). While we believe some cliff sites used for outdoor education may offer comparable levels of risk to canoeing on grade II water, departmental policy has made a clear distinction between the two activity areas. However, this does not negate or lessen the leader's duty of care to ensure the safety of their participants during a program.

While policies are generally a result of legal or insurance requirements, consideration must be given to the level of competence necessary of a participant to partake in an activity safely. Risk assessment aims to balance this required competence with appropriate risk in order to achieve desired program outcomes. Done correctly, this process will ensure that a participants level of emotional and physical safety is maximised while allowing a *peak experience* to be realised (Figure 1). A *peak experience* will facilitate maximum learning and enjoyment.

It is also important to note that some consideration should be given to the type of clients for whom the program has been designed when assessing ratios of risk and competence. For example, programs aimed at special needs groups or 'at risk' youth may generate very high levels of potential risk. These adolescents are already living in a state of anxiety and disequilibrium and to thrust them into further tension could be disastrous (Kiewa 1992). A more appropriate level of risk assessment which promotes experiences of "stability and certainty" may need to be considered.

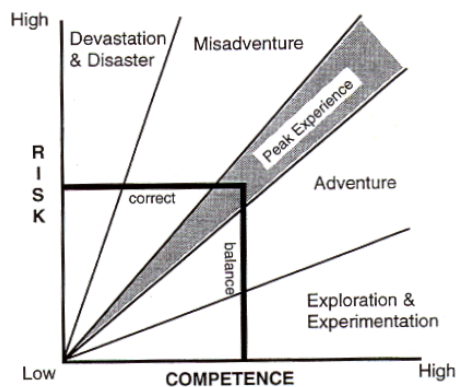


Figure 1: **Adventure Experience Paradigm**  
(source: Martin & Priest 1986)

Similarly, what is the level of risk at an indoor climbing wall? The environmental hazards have been minimised, but does this also mean that potential equipment and participant hazards are also reduced? Clearly, it is very important that sound decisions and judgements are made when assessing the inherent and potential risks of a program.

Evaluate the hazards you have identified in your program (Step 1 - Risk Identification). What is your assessment of the risk associated with each of the hazards identified? Remember, the experience of the leader, site knowledge, the activity to be conducted, and the level of confidence/competence of the group will either increase or decrease the likelihood of the hazard eventuating. You are now ready to start Step 3.

### 3. Risk Reduction

The aim of risk reduction is to implement a range of strategies that will minimise risks to an acceptable level in an attempt to prevent incidents occurring. A range of strategies appropriate for reducing risks in outdoor education, may include:

#### (a) Safety Policy and Guidelines

- Being familiar with any Workplace, Health and Safety guidelines which outline accepted codes of practice for the activity being conducted;
- Being aware of broader industry requirements at a national level in relation to instructor competencies; and
- By including a statement of the aims and objectives of the program (as well as a summary of the risk and critical incident management strategies) in organisational procedures manuals.

#### (b) Risk Disclosure

- By outlining the nature of the activity to participants (and their parents/guardians if under 18 years of age);
- By informing participants of their responsibilities; and
- By increasing participants knowledge about an activity as part of a lead-in program, for example:
  - equipment familiarisation
  - awareness of potential dangers and hazards of activity/site
  - description of the environment where activity will be conducted

#### (c) Knowing the Participants

- By structuring some ice-breakers, trust activities into the program to give the leader valuable behavioural cues about the group (this is necessary if you are meeting the group for the first time);
- By knowing the group prior to the activity to ensure appropriate:
  - ⇒ choice of site
  - ⇒ choice of activities for maximum results

- ⇒ sequencing of activities
- ⇒ group size, group composition
- ⇒ inclusion or exclusion of a participant;
- To allow the most appropriate group management strategy at the site; and
- By issuing and collecting medical forms so that you are aware of participants medical conditions prior to the activity).

*(d) Staff training*

- By employing/utilising qualified staff (it may also be necessary to consult Departmental or Organisational policy and guidelines on employment); and
- By being aware of evacuation routes and procedures for the site being utilised (do not be left in the dark if at an unfamiliar site with an external instructor)

*(e) Equipment selection, inspection and maintenance*

- By using approved gear;
- By maintaining and ensuring all gear is in good working order; and
- By logging the use of gear and retiring it at the appropriate time.

Each of these strategies should be part of an established outdoor education programs (eg. bushwalking, canoeing, cliff-based and high ropes programs) code of practice. They should also be a part of any impromptu program. The implementation of these procedures will reduce the likelihood of risk occurring. Risk that we have some control over!

#### **4. Risk Management Plans**

The development of a risk management plan will assist outdoor educators and program leaders to develop strategies to counter the likelihood of an incident occurring (Figure 2). A risk management plan identifies the undesired events where an accident, injury or loss may occur. Depending on the program, any number of undesired events could be identified. For each undesired event (or risk) the causal agents that could lead to the undesired event occurring are also identified. Generally, these causal agents are an outcome related to the

participants of the activity, the equipment used or the environment in which the activity will be conducted. (However, it is important to remember that some undesired events may be the result of the interaction of two or more factors). For each corresponding causal agent a risk management strategy is then developed to lessen the likelihood of the undesired event occurring.

Six undesired events which individually may lead to an accident, injury or loss occurring in a rockclimbing and abseiling program have been identified in Figure 2. (Remember any particular program may have any number of undesired events which may or may not occur). If we take for example undesired event N<sup>o</sup>2, “*Student slips and falls and injures themselves while taking short cut*” you may identify that this event may be caused by the ‘student being in a hurry, or caused by the student being inattentive while moving between cliff base/cliff top’ (People 2). This event may also be caused by ‘the student wearing inappropriate footwear’ (Equipment 2) or due to the fact that there were ‘loose stones or exposed tree roots along the short cut’ (Environment 2).

For each of causal agent, a risk management strategy can be formulated. Possible risk management strategies for each factor are given in the corresponding risk management strategy number. However, in some instances an undesired event may not be a result of a specific causal agent. For example, the undesired event identified at 5, “*Student freezes during climb and will not move*” may not be a result of ‘Equipment’, therefore the identification of a factor which could lead to the risk eventuating and corresponding management strategy is redundant. This layout may be used for the development of risk management plans for any range of outdoor education programs.

<b>Risks</b> <i>(List the undesired events where an accident, injury or loss could occur)</i>		
1. Student is hit by falling rock	4. Belayer distracted and fails to arrest falling climber	
2. Student slips and falls and injures themselves while taking short cut	5. Student “freezes” during climb and will not move	
3. Student experiences clothing entanglement and is stuck	6. Student experiences asthma attack during session	
	<b>Dangers</b> <i>(for each identified inherent risk list the factors which could lead to the risk eventuating)</i>	<b>Risk Management Strategies</b> <i>(to reduce the likelihood of the risk eventuating)</i>
<b>People</b> <i>(attributes people bring to an activity: skills, attitudes; physical fitness; health; age; fears; numbers; etc.)</i>	<ol style="list-style-type: none"> <li>1. Students excited, unaware of the dangers associated with cliff</li> <li>2. Student in a hurry, inattentive while moving between cliff base/top</li> <li>3. Student forgets to tuck clothing in, uses poor technique</li> <li>4. Student inattentive, watching other groups, inexperienced</li> <li>5. Student afraid of heights, lacks confidence in themselves</li> <li>6. Student has medical history, anxiety/overexertion brings on attack</li> </ol>	<ol style="list-style-type: none"> <li>1. Ensure good group control, close supervision</li> <li>2. Define pathway, provide adequate briefing, close supervision</li> <li>3. Brief students prior to activity, provide detailed instruction onsite</li> <li>4. Brief students, practice techniques on level ground, close supervision</li> <li>5. Be aware of students capabilities, set realistic goals, build confidence</li> <li>6. Students to provide medical information, close supervision</li> </ol>
<b>Equipment</b> <i>(resources that impact on the activity: clothing; helmets; ropes; harnesses; karabiners, etc.)</i>	<ol style="list-style-type: none"> <li>1. Helmets not worn or not worn/fitted correctly</li> <li>2. Inappropriate footwear, laces not done up</li> <li>3. Clothing fashions - inappropriate for activity</li> <li>4. Equipment not fail safe</li> <li>5. -</li> <li>6. Student leaves medication at home</li> </ol>	<ol style="list-style-type: none"> <li>1. Check helmets worn properly, helmets worn at all times @ cliff</li> <li>2. Check footwear, ensure laces tied</li> <li>3. Provide students with clothing lists prior to activity, check clothing</li> <li>4. Employ back-up belayers, tie knots in rope</li> <li>5. -</li> <li>6. Check that medication is being carried by student</li> </ol>
<b>Environment</b> <i>(factors that impact on the activity: weather; terrain; insects; access; rock type; loose rocks; etc.)</i>	<ol style="list-style-type: none"> <li>1. Loose rocks at cliff top</li> <li>2. Steepness of path, loose stones, exposed tree roots</li> <li>3. Hot weather - loose clothing; Cold weather - bulky clothing</li> <li>4. Insects which bite ( eg. ants, flies, mossies, midges, etc.)</li> <li>5. Height of cliff, difficulty of climb, exposure</li> <li>6. Environmental triggers (eg. pollen, dust, etc.)</li> </ol>	<ol style="list-style-type: none"> <li>1. Select site(s) with no/minimal loose rock, clear site</li> <li>2. Select safest route, delineate with markers</li> <li>3. Be prepared to change program, use different site</li> <li>4. Carry insect repellent</li> <li>5. Choose low cliff for initial instruction, site with good hand/foot holds</li> <li>6. Recognition of triggers, signs and symptoms</li> </ol>

Figure 2: Proposed Risk Management Plan for a rockclimbing and abseiling programs (source: adapted from TOLC 1996:15)

A practical risk management strategy will allow the outdoor educator to reduce the likelihood of an incident occurring. However, in order to do this, outdoor educators may need to rethink the way they plan an activity. Outdoor educators must examine all factors (participants, equipment, and environment) when planning an outdoor education program to guard against undesired events. This is essential for maintaining the physical and emotional safety of their clients during a program for which they are responsible. A risk management plan will also provide documented evidence that all likely factors were considered and strategies developed in the event that an accident leads to litigation.

## Conclusion

The principle objective for ensuring the physical and emotional safety of participants during an outdoor education program is to reduce the degree of real risk. This is done to establish the desired level of risk exposure according to the objectives of the program. This may involve the control of hazards to levels comparable to everyday life or possibly even safer. However, the level of risk and the resultant challenge will vary with each participant. The implementation of an effective risk management process will ensure that all activities are planned and conducted safely.

Generally, a risk management strategy should include a process which focuses on the identification, assessment and reduction of inherent risks. It should also outline how incidents will be managed if and when they occur during a program. A risk management strategy that addresses the four processes discussed in this paper will minimise the risk of injury to participants and ensure that program outcomes are achieved. A practical risk management strategy anticipates the "what if" perspective. Ask yourself, what is the worst case scenario? Then ask yourself what you can do to reduce the risk of this undesired event from occurring. Hopefully, this paper has provided you with the tools and the practical explanation to undertake this task.

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