ROYAL CANADIAN ARMY CADETS

MASTER CADET

INSTRUCTIONAL GUIDE

SECTION 3

EO C525.03 – ANALYZE SITUATIONS USING RISK MANAGEMENT STRATEGIES

Total Time: 90 min

PREPARATION

PRE-LESSON INSTRUCTIONS

Resources needed for the completion of this self study package are listed in the lesson specification located in A-CR-CCP-705/PG-001, *Master Cadet Qualification Standard and Plan*, Chapter 4. Specific uses for said resources are identified throughout the self study package within the section for which they are required.

Self study packages are intended to be completed by the cadet independently. More information about self study packages can be found in the foreword and preface.

Review the lesson content and become familiar with the material prior to facilitating this lesson.

Photocopy the self study package located at Attachment A for each cadet.

Photocopy the answer key located at Attachment B but **do not** provide it to the cadet.

PRE-LESSON ASSIGNMENT

Nil.

APPROACH

A self study was chosen for this lesson as it allows the cadet to examine in greater detail risk management strategies at their own learning pace. This encourages the cadet to become more self-reliant and independent by focusing on their own learning instead of learning directed by the instructor.

INTRODUCTION

REVIEW

Nil.

OBJECTIVES

By the end of this lesson the cadet shall be expected to analyze situations using risk management strategies.

IMPORTANCE

It is important for cadets to analyze situations using risk management strategies as they may have already had and / or will have to make decisions in the outdoor setting. The outdoor setting offers so many challenges, and drawing from others' experience will help the cadets when they are facing their own situations.

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SELF STUDY PACKAGE INSTRUCTIONS

OBJECTIVES

The objective of this self study package is to have the cadet analyze situations using risk management strategies.

RESOURCES

- Self study package, and
- Pen / pencil.

ACTIVITY LAYOUT

Provide the cadet with a classroom or training area suitable to complete the self study package.

ACTIVITY INSTRUCTIONS

1. Provide the cadet with a copy of the self study package located at Attachment A and a pen / pencil.
2. Allow the cadet 90 minutes to complete the self study package.
3. Provide assistance as required to the cadet.
4. Collect the self study package once the cadet has finished.
5. Correct the self study package with the self study package answer key located at Attachment B.
6. Provide feedback to the cadet and indicate whether or not they have completed the Enabling Objective (EO).
7. Return the completed self study package to the cadet for their future reference.
8. Record the result in the cadet's logbook and Fortress Cadet Training Record.

SAFETY

Nil.

END OF LESSON CONFIRMATION

The cadet's completion of the self study package will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK / READING / PRACTICE

Nil.

METHOD OF EVALUATION

Nil.

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CLOSING STATEMENT

Safety and risk management are an important part of outdoor activities. Being able to analyze situations and learn from other leader's positive and learning experiences is an important tool for an OL. The decisions of an OL have great impact, hence the need to develop decision-making, judgment and analytical skills.

INSTRUCTOR NOTES / REMARKS

Nil.

REFERENCES

C2-034 ISBN 978-0-7360-5250-4 Priest, S., & Gass, M. (2005). *Effective leadership in adventure programming (2nd ed*.). Windsor, ON: Human Kinetics Publishing Inc.

C2-152 1-898555-09-5 Ogilvie, K. (1993). *Leading and managing groups in the outdoors: New revised edition*. Cumbria, England: The Institute for Outdoor Learning.

C2-250 Leemon, D., & Schimelpfenig, T. (2005). *Risk management for outdoor leaders: A practical guide for managing risk through leadership*. Lander, WY: National Outdoor Leadership School.

C2-252 1-929148-54-2 Ajango, D. (2005). *Lessons learned II: Using case studies and history to improve safety education*. Eagle River, AK: SafetyEd: Safety Education for Outdoor and Remote Work Environments.

C2-259 ISBN 978-0-00-638574-5 Raffan, J. (2002). *Deep waters*. Toronto, ON: HarperCollins Publishers Ltd.

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Analyze Situations Using Risk Management Strategies



SECTION 1: JUDGMENT

SECTION 2: DECISION MAKING

SECTION 3: CASE STUDIES

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SECTION 1
JUDGMENT

When OLs head into the outdoors, they encounter "risk" at every turn. It can be anything from a stream that is bigger than expected, weather that has changed, or a group member who ignores instructions. A good leader makes decisions that minimize harm and maximize the positive experience. Such a leader is an effective "outdoor risk manager".

The outdoors is filled with uncertainty. Many situations have information that is either missing, vague, or unknown. Consider these examples:

1. The fragility of a rock climbing hold.
2. The avalanche probability.
3. Obstacles downstream on a new river during high water.
4. Reactions to risk by group members.

When facing such cases, judgment is indispensable. To be an effective OL, your strength must lie in your ability to make accurate decisions in those uncommon situations.



Do you think judgment can be developed? _____

Why or why not?

THE JUDGMENT CYCLE

We can view judgment as a cycle of three reflective processes: inductive, deductive and evaluative. Let's look at each closely.

Inductive reflection creates general concepts from specific experiences. For example: if every insect you have encountered has bit you, you may come to the conclusion that every insect bites.

Deductive reflection makes specific predictions based on general concepts. For example: if you know that one general characteristic of birds is to lay eggs and you see a specimen (unknown to you) that is laying eggs, you would deduct that that specimen is a bird.

Evaluative reflection is used to analyze the accuracy of the prediction, and then we use this analysis as a new specific experience to help us define the general concept or refine the base of experience. For example, if your prediction was incorrect (insects), then you need to identify why it was wrong (not all insects bite) and use that evaluation to modify your concept of insects. Similarly, if your prediction is correct (bird), then you need to identify why it was right (also has a beak and feathers) and use those facts to reinforce what you already know about insects and birds.

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***Activate Your Brain #1*:**

What are the three types of reflection? Explain.

#1

#2

#3

DEVELOPING JUDGMENT

Sound judgment is a lot like memory capacity. It cannot be taught, but it can be developed and improved to an optimal level for any OL. Developing judgment lies not in regurgitating facts memorized for tests, but in reasoning. As an OL, you must concentrate on processing information rather than on memorizing it. You must discard memorization in favour of three-way reflection: induction, deduction, and especially, evaluation.



"A leader with limited knowledge and superior judgment is better than one with vast knowledge and little judgment."

- *Risk Management for Outdoor Leaders* (2005)

All too often, OLs forget to evaluate successful actions and instead analyze only those that failed. **Evaluating successes is as important as evaluating failures.** However, the idea that we "learn from mistakes" does not justify making errors. No matter what happens, you should spend time reflecting on negative and positive outcomes because you can learn from both.

Try the following suggestions to help improve your judgment:



In the following list, **check off** the items that you are currently applying or have applied in the past. **Circle** the ones that you intend on applying in the near future.

- Listen to the rules and the exceptions to those rules.
- Gather as much information as possible from lectures, historical case studies, and the horror stories of other leaders.
- Observe other leaders and how they use judgment.
- Develop a questioning attitude and inquire about the predictions others make.
- Recall personal near misses and share them openly with others.
- Consider the analysis of personal mistakes made by others.
- React, either verbally or in writing, to uncertain situations posed by other leaders.
- Keep a logbook of experiences and a judgment journal, reflecting on those experiences.
- Get experience at every opportunity: never turn down any reasonable chance to lead.

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- Take a group of peers on an expedition and ask for their honest feedback.
- Undertake practical internships with several programs, always asking someone to observe you and give advice.
- Become an apprentice to an expert leader and have this mentor guide you and pass on responsibility in a gradual manner.

Above all, evaluate and thoroughly reflect on every experience.

PROBLEM SOLVING

The leader had a problem to solve: what would be the best way to portage a heavy load of two packs and a canoe on a long, rock trail around a Class Five rapid in the most appropriate amount of time? His solution was to carry the canoe on the top of his head and the two packs on his body. This solution worked really well until he became tired and wanted to rest. When he tried to take the canoe off his head, he slipped and stumbled off the trail, rolled down a hill, and struck his head on a small rock.

The assistant leader provided first aid and then put a group member in charge of monitoring the unconscious leader's vital signs. The group still had one day to paddle before it could get out to a helicopter landing site. The assistant leader sent two of the strongest paddlers ahead to get help sent to the helicopter landing site, and now she had a problem to solve: what would be the best way to evacuate this victim by water?

Sometimes the solution to a little problem can create bigger problems. Although the leader's solution to the initial problem was appropriate, his solution to the subsequent problem of needing to rest was not.

Problem solving is finding answers to both simple and complex questions.

Problem solving is determining what needs to be done to make the situation become what you would like it to be. It closely relates to decision-making and judgment. Decision making is choosing between options to obtain the most probable option from a collection of possible ones.

There are three phases to problem solving: the assessment, analytical, and creative phases.

Assessment phase. In the assessment phase, you recognize a problem. If at any given moment you do not recognize a problem, then you have to stay alert to potential problems. As soon as you recognize a problem, you are obliged to enter into the analytical phase of the model.

Analytical phase. The analytical phase consists of five steps. They are:

1. Determine the part of the problem (the heart) that is going to be the most difficult to overcome.
2. Determine the desired outcome to success.
3. Identify solutions to the problem.
4. Determine the best one.
5. Execute it.

Creative phase. The creative phase becomes necessary when answers to questions in the analytical phase are negative or when problem solving stalls. These six creative techniques may prove useful:

1. **Brainstorming.** Openly expressing any idea that comes to mind without fear of criticism by other group members. The atmosphere has to allow people to share suggestions, no matter how unusual or weird, without anyone else putting them down. The uninhibited sharing of ideas can spark creative new ideas in others.

2. **Extended effort.** Encouraging group members not to give up too quickly. By waiting through any pauses or dry spells, groups find that ideas generated later in the process prove to be the most creative and, occasionally, the most useful.

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3. **Attribute listing.** Identifying the characteristics of any idea or piece of the problem. Listing attributes, such as abilities, limitations, strengths, weaknesses, or required resources, helps to draw connections and formulate relationships among the ideas generated. People may combine these characteristics to generate new ideas.

4. **Forced relationships.** Comparing and contrasting ideas with an eye for creating new ideas by altering old ones. Often it is a forced substitution, combination, adaptation, modification, enlargement, reduction, reversal, or rearrangement that leads to these new ideas.

5. **Deferred prejudice.** Requiring that people remain open to generating new ideas instead of settling on the first one that sounds good to them. By providing ample time and freedom from bias, you provide opportunity to enlarge the pool of generated ideas. You can make better choices from a large number of ideas.

6. **Judgment.** Using judgment to balance the need to generate creative ideas with the time restrictions dictated by the problem. Necessary when the process is delayed due to lack of information (which might compound the problem).

Once you have executed a solution, you have the final responsibility of evaluating whether the solution works. If it does not work, then you must repeat the cycle.



***Activate Your Brain #2*:**

What are the three phases of problem solving?

#1
#2
#3



Explain two creative techniques that you find particularly interesting.

#1

#2



***Activate Your Brain #3*:**

Discuss three ways in which you could develop your judgment.

#1

#2

#3

CASE STUDY: THE MOUNT HOOD TRAGEDY

The Mount Hood tragedy is a classic example of what can happen when a leader is not fully prepared and makes an error in judgment.

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Highlight the decisions that you find are questionable in the following case study.

On Monday, May 18, 1985, a group of 20 people left the parking lot of Timberline Lodge at 0300 hrs to climb Mount Hood, Oregon, expecting to return in the afternoon of the same day.

The group consisted of 15 students of the Oregon Episcopal School in Portland; Reverent Thomas Goman, an instructor in the school's "Base Camp" wilderness program and the leader of the trip; Marion Horwell, also a faculty member at O.E.S. but an inexperienced climber; Ralph Summers, a guide from the Pacific Crest Outward Bound School hired as "Technical Consultant" for the trip; Dee Zduniak, another Outward Bound instructor who wanted to familiarize herself with the program; and the mother of one of the students.

For two days prior to the climb, the weather had been unsettled and there had been new snowfall. A storm had been predicted for Monday, and the group had left the parking lot under overcast skies.

The group left the parking lot at about 0300 hrs. The weather was windy and cold, and progress was slow. One of the students, a diabetic, turned back to the lodge together with her mother. By 0500 hrs, the rest of the group arrived at their first rest stop, Silcox Hut, at which point they were already one hour behind schedule.

Over the next few hours, several breaks were taken, but progress continued to be slow and four more students turned back. The group became divided because Horwell was moving very slowly and complaining of dizziness. At 0800 hrs, the group reached the top of Palmer Lift, with the weather continuing to be windy and cold with two layers of clouds. One student apparently was feeling nauseous, and during the 20-minute break at Palmer Lift, several students considered turning back, but decided to carry on after discussion with the leader.

As the climb continued, markers were placed every 60 m (200 feet), and the 3000-m (9 300-foot) bench mark, located below an area called the Hogsback, was reached at approximately 1100 hrs. Both Timberline Lodge and the summit could be seen at this point.

About half an hour after, once again resuming the climb, Dee Zduniak decided to turn back because of beginning snow blindness (a recurring injury from the previous winter). At that time, the weather started to change; the clouds were lowering down to the summit.

By the time the group had reached the Hogsback, the visibility was only about 15 m (50 feet), and the temperature was dropping. At this point, several members of the group were having difficulties, and the two leaders discussed turning back; Thomas Goman decided to make one more effort upward, and Ralph Summers deferred to Thomas Goman's leadership.

Leaving their packs at the Hogsback, the group continued on, with the weather continuing to deteriorate. Ralph Summers was in the lead, but soon lost contact with the rest of the group, which was spreading out. When he went back to them, he told Thomas Goman that they should turn back, which they did. It was now about 1400–1500 hrs, and they had been climbing for 11 hours.

By the time the group had made their way back to their packs at the Hogsback under whiteout conditions, one of the students, Patrick McGuinness, was exhibiting signs of hypothermia. He was placed into the one available sleeping bag and given hot liquids. Efforts to rewarm the student continued for an hour until 1600 hrs, at which point Summers and one of the stronger group members started down with McGuinness, followed by the rest of the group.

Weather conditions had by now become severe, with winds of 25 kph (40 mph), deep snow, and visibility of less than 3 m (10 feet). The steps made on the way up were blown in, and route finding became difficult. Thomas Goman gave directions from the rear of the group to keep left, and at a point where two of the sticks were

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found, Ralph Summers asked for the compass to be passed to the front and found it set to 160 degrees. He later said he had assumed that this was to avoid heading into a nearby canyon under the stormy conditions.

No more markers were found after this point. Soon the group encountered steep, crevassed terrain, and Ralph Summers became confused as to their location. Just before reaching this area, Thomas Goman had fallen over and required assistance to get up again.

At this time (about 1900 hrs), Ralph Summers halted the group and suggested that considering their situation they should dig in for the night rather than continuing, to which Thomas Goman assented. Summers then proceeded to dig a cave with his snow shovel (the only one carried by the group) with some assistance from Goman, while the rest of the group huddled under a tarp with McGuinness in the sleeping bag.

After about one or two hours, Ralph Summers felt that it was critical to get everyone inside the cave without further delay. Both leaders were hypothermic by the time they entered the cave. The packs had to remain outside, as the cave was only 1.8 m by 2.4 m by 1.2 m (6 feet by 8 feet by 4 feet) high, but even so the interior was extremely cramped and could not hold the entire group all at once. It was hard to keep circulation going, stay warm, and breathe sufficient fresh air during the night. The only ground insulation was a space blanket provided by one of the students, and there was no extra clothing, food, water, or a stove, since all the packs had remained outside.

Throughout the night, the entrance got snowed in and had to be kept open. People took turns leaving the cave for fresh air. Sometime during the night, the shovel was lost outside, and some people lost hats, mittens and boots.

By morning, the storm was even worse and Ralph Summers decided that he had to attempt to get help: "We had lost the ability to take care of ourselves; I felt I needed to let them (the people he knew would be down below) know of our situation." Thomas Goman was in too poor a condition at this point to respond to this decision, and Summers set off two hours after daybreak accompanied by one of the stronger students, equipped with the compass and one ice axe.

At sun-up Tuesday morning, a comprehensive rescue effort involving various government agencies, the military, and volunteer rescue groups was underway but was hampered by the continuing storm.

At about 0900 hrs, Ralph Summers and the student arrived at Mount Hood Meadows, 1.25 km (two miles) east of Timberline. Throughout Tuesday, rescuers were thwarted by high winds and snowdrifts, and the search had to be called off for the night because of hazardous conditions caused by the bad weather.

Later that night, the weather finally cleared and the search resumed on Wednesday morning with the first light. At 0600 hrs, a helicopter spotted three bodies in the snow. When rescuers arrived, they were identified as three students belonging to the missing group and were airlifted to Emanuel Hospital in Portland immediately. They were all extremely cold with body temperatures between 6°C and 15°C, and efforts to revive them were unsuccessful.

Throughout Wednesday and Thursday, searchers combed the mountain's south and southeast faces, but the snow cave was not found. In the late afternoon on Thursday, with another storm approaching and 20 minutes before the search was to be called off for the day, a rescuer probing the edge of a crevasse at the 2500-m (8 300-foot) level felt something soft, dug through four feet of snow and found the entrance to cave. In it, the climbers were lying stacked on top of one another. Some of them had their eyes open and were breathing, but others showed no vital signs, and all were in a state of profound hypothermia.

The rescuers hauled each of the climbers out of the cave with extreme caution and stretchered them to waiting helicopters, in which they were flown to different hospitals in the Portland, OR area. Using cardiopulmonary bypass machines, doctors tried to raise their body temperatures by warming their blood and returning it to their bodies.

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Of the eight people found in the cave, six, including the two teachers, did not respond to attempts to revive them and died shortly afterward. Two of the students survived, but one of them had to have both legs amputated a few days later as a result of extensive tissue damage.



List some of the things you believed went wrong.

A panel of five medical and mountaineering safety experts was assembled to convey an inquiry of the accident. By the end of July, the investigators submitted their report.

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Do you believe the following factors had an impact on the situation's outcome? How?

Equipment:

Level of supervision:

Leadership:

Weather:

Digging a cave:

Here are some of the conclusions that were drawn from the investigators:

1. Equipment such as heavy boots, sleeping bags and snow shovels was insufficient.

2. The leaders did not carry a topographical map of the area or an altimeter; one of the leaders kept his watch and one of the two compasses carried by the group in his pack and consequently did not use either.

3. The ratio of leaders to students (1: 8.5) was considered unacceptable by the panel.

4. The weather report (received by both leaders) had reliably forecasted a several-day storm, with the only variable being the arrival time of the main front.

5. The decision to turn back should have been made much earlier. At Palmer Lift, given the time of day, the weather, and the deteriorating condition of the group, the prudent course of action would have been to

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descend with the entire group. Past that point, the human and environmental conditions clearly indicated that this was the time to turn around.

6. One of the primary causes in this accident was the need to try to stick to a schedule (because the event could not be rescheduled at a later date).

7. It would have been better to continue the descent (even if it meant dragging the hypothermic student with a climbing rope) because the condition of the other members of the group likely deteriorated further as a result.

8. The decision to not search for route markers would have only been appropriate if the route was well-known or the compass bearing correct. By keeping visual or tactile contact with the rock on the right, a descent in the correct direction would have been possible even in stormy conditions.

9. The decision to stop and dig a cave was "only acceptable under the circumstances at the moment". It would have been better to continue down as fast as possible. The value of the snow cave was limited because of the loss of equipment, other members of the group not digging, and not continuing survival protocol within the cave."



What can you learn from this situation?

The chain of events and decisions that led to this tragedy seems easily traced, but while undoubtedly basic rules of outdoor safety were broken, the way someone views a situation from a warm cozy office room is much different than the way someone views a situation after many freezing hours of extreme exertion and anxiety.

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SECTION 2
DECISION MAKING

DECISION MAKING

The avalanche that had buried a student was small in comparison to some of those the head leader had seen in 10 years of ski patrol experience. Nonetheless, there was absolutely no sign of the student anywhere. Four hours earlier, the head leader's group of three novices had left the remaining 12 students of the skiing class with two other leaders. The two subgroups (4 and 14, respectively) were making their way to a common meeting place by different routes. With four hours of daylight left, the head leader's group of four was about two hours from the road head when the avalanche struck. The head leader began recalling the events immediately leading up to the accident.

The group of four had been travelling on the ridge top and was descending a leeward slope to reach and follow the valley floor below. The leader had pit tested the snow slope's substructure and determined it to be stable. Although they were above tree line, no old slice paths or running cracks had been noticed. Before descending, they had taken all the necessary precautions. Each had removed their straps on skis, poles and packs to prevent these items from dragging them under in the event of an avalanche. All had zipped up their layers of clothing, and put their hats and mittens on to keep themselves warm. Each had placed covering handkerchiefs across their mouths and nostrils to prevent possible snow inhalation. So as not to expose more than one person to danger at any time, they moved across individually and planned to rest only at points of relative security. The leader had gone first, planning a careful path from safety point to safety point. Given the beginning nature of the ski touring class, no one had been issued avalanche chords or radio beacons (these were rare and expensive years ago when this accident happened).

Whump! The small slab avalanche had suddenly let loose under the student's feet and thundered down the slope past the leader. The other two skiers saw the student discard a pack and attempt to swim "ferrystyle" to one side of the avalanche, but powerfully it turned the student over and over again, progressing downhill forcibly. Once the snow had settled, there was nothing but pristine silence. From a distance the other skiers could not discern the fate of their friend. From their viewpoints, no one could see any visual clues that might lead them closer to the buried skier. They could only hope that as the avalanche had slowed, the student had made a last ditch effort to gain the surface or at least make an air pocket in front of his face. The leader surveyed the slope for further danger and then assembled the remaining two students above the debris area at the last spot they had clearly seen the student. After briefly pondering the problem, the leader explained that speed and accuracy were of the utmost importance: the longer the student remained buried the lesser the chances of recovering the student alive! The leader realized the obvious problem was to how best to find the student ALIVE and thus faced making a series of very difficult decisions.

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[1] ***Note.*** **From *Effective Leadership in Adventure Programming* (2nd ed.) (p.274), by S. Priest & M. Gass, 2005, Windsor, ON: Human Kinetics Publishing Inc.**

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Using one of the creative techniques, come up with two possible options the leader may have had.

Decision making is choosing the most probable option from a collection of possible ones. The process involves diverging, or building a range of several options, and then converging, or narrowing that range to select the best option.

DECISION-MAKING METHODS

Making decisions is necessary at several steps of the problem-solving process.



REMINDER

In the problem-solving process, there were many decisions to be made:

- heart of the problem,
- desired outcome,
- best possible solutions, and
- best probable solution from a wide range of possible solutions.

Divergence

The wider range of options generated through divergence, the better. As you know, the creative phase of the problem solving model contains several techniques that effectively diverge options.

In the avalanche example, there were many options identified by the leader:

1. Seek a professional search and rescue (SAR) team.
2. Meet up with the other subgroup to gain their assistance.
3. Perform a hasty search with the two remaining students.
4. Perform a coarse-probe search, for example, move forward 70 cm, probe once 2 m deep with ski poles.
5. Perform a fine-probe search, for example, move forward 30 cm, probe three times 2 m deep with ski poles.
6. Wait for help to find them once they become overdue.
7. Split the subgroup further, send one student for help while the leader and the other student search.

Given enough time, a group could easily enlarge the list of options.

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List two more options that could be considered.

Convergence

This is generally the most difficult part of decision making. You must discriminate the best option from among many options.

A five-step method exists to narrow the field:

- gathering;
- weeding out;
- organizing;
- weighting; and
- choosing.

Gathering. It involves collecting all pertinent information to the problem. You have to gather and sort things as facts (what you know as true), assumptions (what you think is true) and constraints (possible barriers to success).

Weeding out. It involves removing those options that are clearly inappropriate. Reducing the number of options, considering the information you have gathered, makes it more manageable.

Organizing. It involves ranking the three or four remaining options. Compare two options at a time rather than all options at once. The fewer options to choose from, the easier and more efficient choosing becomes. Ordering enables you to examine any situation from its component decisions, making the overall situation more manageable.

Weighting. It involves considering the positive, neutral, and negative aspects of each option at each decision.

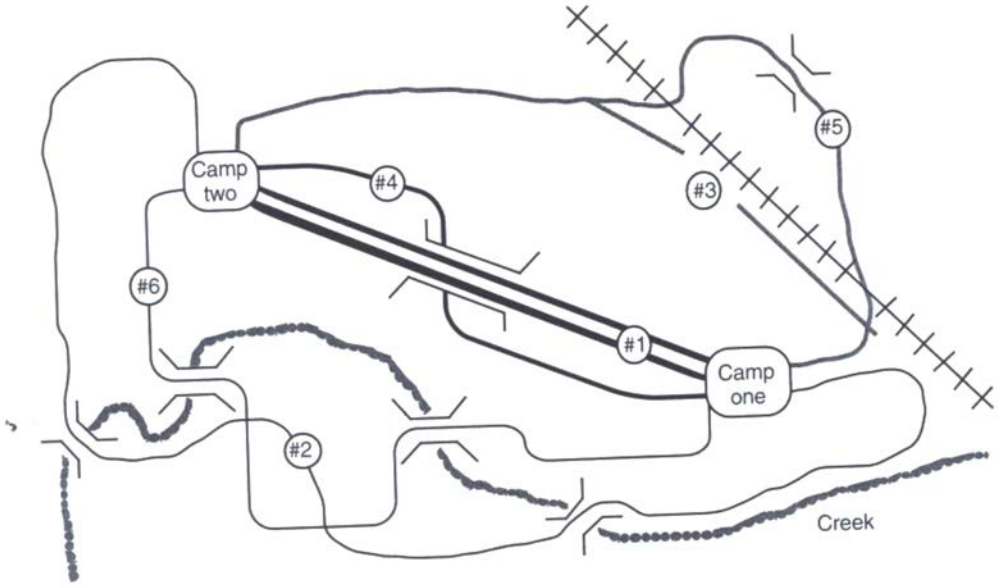
Choosing. It involves choosing the preferred option.

For example, picture yourself as a bicycle trip leader. As per Figure 1, you are located in campsite number one and you want to make it to campsite number two. You have to balance risks with bike pleasure.

You determine that eight options are available to you (convergence).

Then, you have to collect information about all your options (gathering). After gathering information, you eliminate (weeding out) a few options. After finding out about heavy construction on one route and going through a marsh on another one, you drop those two options, which means you are left with six different options (six routes) to choose from. The six routes are mapped out in Figure 2.

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Note. From Effective Leadership in Adventure Programming (2nd ed.) (p.285), by S. Priest & M. Gass, 2005, Windsor, ON: Human Kinetics Publishing Inc.

Figure A-1 Possible Routes for Bicycle Trip

To compare, you should organize the facts and assumptions you have gathered, as per Figure 2.

Qualities	Route #1	Route #2	Route #3	Route #4	Route #5	Route #6
Dangers	No shoulder	Bridges	Walk by rail	Underpass	Rail crossings	Bridges
Concerns	Straight	Winding	Missing bit	Straight	Steep hill	Straight
Road type	Highway	Bike path	Back road	Highway	Back road	Farm road
Traffic	Extreme	None	Light	Heavy	Light	Moderate
Terrain	Gentle grade	Flat	Hilly and flat	Gentle grade	Mtn pass	Flat
Surface	Paved	Hard-packed	Gravel	Paved	Dirt	Paved
Distance	24 km	80 km	48 km	32 km	56 km	64 km
Key points of interest	Non	Scenic	None	None	Nice views	Scenic

Note. From Effective Leadership in Adventure Programming (2nd ed.) (p.285), by S. Priest & M. Gass, 2005, Windsor, ON: Human Kinetics Publishing Inc.

Figure A-2 Route Characteristics

Since the number of options is large, you may reduce it by applying some additional criteria, such as avoiding vehicle fumes or hills and seeking paved surfaces or scenery.

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The qualities are typically organized around the following themes:

- advantages, benefits, and points of interest;
- disadvantages, negatives and other dangers; and
- general qualifiers, such as costs, distances, road type, terrain, and surface.

You do not have to include all themes in a comparative table, but to be the most effective, you should consider all the available information and evaluation criteria. For example, alternatives are often overlooked variables to any consequences that might result if you select an option and put it into action.

You could decide to mentally cross out the entries that are equivalent. You may decide that crossing two bridges is equivalent to a rail walk or that the nice view compensates for the steep hill. Once there are only a few entries left, you may find it easier to compare and make the best possible decision.

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SECTION 3
CASE STUDIES

Select **one of the two** case studies and answer the following questions:

CASE STUDY # _____
TITLE: _____

1. Which decisions do you find questionable?

2. What would have been good moments to stop and wonder "What if?" before moving on?

3. How does this make you look at the preparation of adventure training differently?

4. What are some elements that you will now consider when preparing an activity?

5. Do you have extra comments in regards to the applicable case?



Congratulations, you have completed your self study package on EO C525.03 (Analyze Situations Using Risk Management Strategies). Hand your completed package to the Training Officer / Course Officer who will record your completion in your Master Cadet logbook.

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CASE STUDY #1 : THE TIMISKAMING TRAGEDY

Ever since I've known Ian Harling, since we worked for the same camp over a decade ago, he's been oblivious to discomfort. He's the kind of guy who wears shorts in the winter. Who doesn't notice black flies. The kind who, when he fell a few years back and broke his arm, said it felt "a little sore." He is a person who quite literally cannot stand still. Like now, as Harling scans the mile of whitecaps separating us, and our canoes, from where we want to be, one meaty calf is pumping like a piston. He's game for the crossing, a part of him is, I can tell.

But a part of him also is not.

It's the summer of 1998; 20 years since Harling almost died, on a similarly rough stretch of water, in the pivotal, unforgettable accident that claimed a dozen of his young schoolmates' lives and changed the complexion of canoeing for good.

Timiskaming. An imposing wedge of exceptionally deep water on the border of Ontario and Quebec—the name in fact means "deep water" in Algonquin—this lake, flanked in many places by sheer cliffs, runs an incredible 85 miles, north-south, before funnelling into the Ottawa River.

St. John's Anglican Boarding School operated on the principle that hardship breeds character. It was a gruelling regiment, bordered, on either side of the school year, by marathon month-long canoe trips. Many St. John's students had done poorly in the public school system, been labelled "problem kids." Harling was no different. St. John's brought out a better side of him. By the end of the 1977–78 school year, his grades had gone from 50s to 80s. Such improvements—and Harling was far from the only one to excel in the St. John's environment—were celebrated on June 10, 1978, during the customary year-end barbecue. That same evening, the boys, none older than 14, were piled into a couple of awaiting vans, the backs of which had been lined with mattresses for the overnight haul that would take them some 160 km (250 miles) to the North. When they awoke, they were on the banks of the Ottawa River, a few miles South of Timiskaming.

It began as a beautiful day, despite the cramped quarters of the van, Harling says, he had slept fairly well, and after a couple of sandwiches was ready to hit the water. He was pumped for this trip. Because of the skill and eagerness he'd shown on a previous trip, he'd been picked as bowsman—a coveted role—for the No. 2 canoe, sterned by teacher Peter Cain, a husky veteran of five long trips with the school. Brigade leader Richard Bird, who helmed No. 1, had a similar number of long trips under his belt.

The boys were in good hands, and the weather was ideal. "Gorgeous, sunny, not much wind," is how Harling recalls the conditions. The four canoes quickly reached Timiskaming. By lunch, when they stopped for some more sandwiches and a quick nap, they'd already covered about 12.5 km (20 miles).

They would do only 6 more (10 more).

Shortly after lunch, the trip leaders decided to cut across the lake. Although the crossing was only a mile, the wind had picked up, coming from the south, and the No. 4 canoe, sterned by Neil Thomson, the least experienced leader, had started to lag behind. The waves weren't "anything outrageous," says Harling. "In fact, it was funny because we were out on Lake Winnipeg the year before in waves three or four times the size." But for Thomson, who had in fact never steered a war canoe before, they were too much. The canoe spun broadside to the waves and went over.

This, in itself, wasn't really a cause for panic: it was still sunny, all the boys wore life jackets, and three canoes were still upright and within hearing range. But a couple of circumstances would quickly turn what should have been a routine rescue into a nightmare.

The first was an almost unbelievable stroke of bad luck: a second canoe—the No. 3 boat, sterned by university student Mark Denny—capsized right on the heals of Thomson's. Denny had seen Thomson's boat flounder and alerted the rest of the brigade. When he turned his own canoe to lead off the rescue, a crew member moved, and the waves—now pounding laterally—tipped them.

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The second factor had been there all along but was just now becoming brutally obvious: the temperature of the lake. It was early June, on Timiskaming. Deep Water. In the inquest following the accident, it was estimated that the lake that day hovered just a degree or two over 50 (10°C): both Sorenson and Harling maintain that it was closer to 40 degrees Fahrenheit (4°C). Life jackets meant nothing after an hour—even less, for young boys—in these conditions.

For Harling, the ensuing events are something of a blur. His canoe, and Bird's, took on as many of Denny's crew—which was closest to them—as they could and hurried them to shore. There they deposited the soaked boys, as well as a few of their own crew members, and headed back out. The waves were getting worse—"hitting from all angles," he says. Enough so that the veteran Bird, while attempting to haul the remainder of Denny's crew, suddenly dumped as well. Harling and Cain anchored the only rescue boat left.

Unable to even see the boat of Thomson by this point, they rushed to the closer two. Denny, a slight 20-year-old, had been in the water a long time. Harling recalls someone—perhaps Bird—cautioning not to take the delirious Denny into the canoe, to tow him in instead.

"Unfortunately, Mark Denny actually crawled into our canoe," says Harling. "But his hypothermia was so severe that he stood up which caused us to dump. So now all four canoes were in the water."

Harling and another boy attempted a splash-out of their boat, surprisingly managing to get the massive canoe upright and mostly emptied. But the waves were getting higher, and when another kid grabbed the gunwale, it rolled right back over. It was then that Harling decided, on his own to swim for shore which was about 70 m away. He just barely made it. He vaguely recalls reaching out to grab a rock, then slipping back in. Apparently he was pulled out by someone, who he believes was Peter Cain. Then he passed out.

"I woke up a little while later—I have no idea of time—and I was alone. Found a little alcove in the rock and went in and stayed there, fell back asleep, woke up again." Eventually I decided to look for others, though he had no idea really where to start. Luckily, he picked the right direction. After just 15 or 20 minutes he spied a column of smoke from a campfire. As he approached, rounding a bay, he came across three boys lying dead on the shore, each of whom he recognized immediately. He later learned that CPR had been attempted, and failed. He walked into the camp. He was the last boy to do so.

A full night passed before anyone in the outside world had an inkling of what had happened. Early the next morning Gary Smith, a helicopter pilot en route to Ottawa, caught sight of two overturned canoes on the shore, with a pair of bodies caught in the rope trailing from them. He spotted the other two canoes drifting a few kilometres away.

Sorenson says he had just finished serving breakfast to guests when the chopper made a forced landing at his lodge. He urged Smith to fly to Ville-Marie to alert the police. In the meantime, Sorenson set off in his boat to the spots Smith had mentioned. At each he found only bodies, five in total. One was that of Mark Denny; the rest were children. "To see such young kids, 12 and 13 years old, it was a shock," recalls Sorenson.

A police boat from Ville-Marie arrived next, loading several of the bodies. Sorenson, who knew from the number and size of the canoes that there had to be more kids somewhere, resumed his search of the area. Returning to the lodge after one unsuccessful sweep he encountered Smith again, who said he'd just seen something on the shore. Sorenson gunned his boat in that direction.

The survivors—15 boys and 3 leaders—had spent the night crowded around a bonfire, comforting each other, praying. The day before, they'd knocked down a couple of trees and built a large H, on which they draped their orange life jackets. Harling can't recall anyone crying. His state is best described, he suggests, as "just incredibly intense"—determined to come through it all, to live.

The black flies were horrendous. "I got eaten alive, especially when I passed out," Harling says. "But you got to a point where you just gave up on the bugs and didn't really notice them anymore." You had to forget hunger, too. He and his fellow students were each given a meagre handful of granola, because a lot of the food had remained with the canoes, and the leaders had no idea how long it would be before anyone came to there aid.

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When Sorenson saw the campfire smoke, he knew he was in the right place. But by this point, in a kind of perverse reprise of the previous day, the weather had again turned nasty. Nastier, in fact.

The police boat bearing the first load of victims never did make it to Ville-Marie. Overloaded with four cops and several dead bodies, it plowed too low into a bank of waves, had its windshield knocked out and sank. Luckily, two men who were building cabins along that desolate flank of the lake saw all this happen and responded to the macabre scene.

Harling says the scariest part of the whole Timiskaming experience was the ride in Sorenson's boat to his lodge. The camp owner concedes that it was a hairy trip. "We were bucking real hard, North, into three-foot waves. It was probably a 30-mile-an-hour wind." He made two trips in these turbulent conditions, and brought all the survivors safely to his side of the lake.

In the interim all the bodies, in a concerted effort by locals, had been found. They now lined Sorenson's dock, draped in blankets. It was a sight from which Sorenson and the St. John's staff tried to shield the survivors, but Harling says he saw them anyway. The boys were herded quickly into the lodge, where they were warmed, fed, tended to. The all slept together that night in a single room.

The surviving boys were finally flown out to join their frantic mothers and fathers. Harling went last. He'd watched his fellow students systematically get whisked away in floatplanes. Finally it was his turn—and his turn would be in Smith's helicopter.

"It seems weird to say, but I thought that part—getting to ride in a helicopter by myself—was really cool," says Harling. He was after all, still a kid.

St. John's was roundly criticized in the aftermath of the tragedy for forcing boys to behave like men. Harling did grow up fast following the accident, but he also held on to his mischievous, playful spirit. He would say that St. John's even nurtured this. He, like most of the other survivors, went back to the school the following year. Yes, St. John's lived on; it would be another eight years before the Claremont facility closed its doors. It was the parents who saved the school. Even those who lost children closed ranks. Outside observers didn't understand it, but those devastated people still credited St. John's with giving their children the best chance they had ever had to succeed.

Harling, for one, never stopped canoeing. The very next year, as a 14-year-old, he paddled with St. John's from Thunder Bay to Winnipeg, crossing the Grand Portage. Trips were scaled back, but they did continue. After he graduated from the school, Harling still volunteered for trips as a leader, because he "wanted to give something back." Since leaving the St. John's and camp worlds, he contents himself with yearly canoe trips with friends.

Debate still rages over where, precisely, things went wrong on the Timiskaming trip.



For your benefit, fill out the case study questionnaire and then read the rest of the case study.

The event was described as a series of judgment errors that, together, added up to catastrophe: the fact that the boys and leaders had little sleep the night before, and had little to eat that day: that one leader, at any rate, should not have been steering a canoe: that weather and water conditions weren't thoroughly anticipated.

The coroner's report found no justification for criminal charges but essentially made the same points; that the trip was hastily mounted, and unreasonable as a whole. "We feel that for boys from 12 to 14 years of age, this entire expedition constituted an exaggerated and pointless challenge," it stated.

Sorenson, who knows the lake well, says he still thinks of it as a freak accident." He often finds himself playing the game of "what if." What if they had just kept to the Quebec side? What if…?

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Harling blames, if anything, the water temperature. “They should have known. But, as I say that, how many times have you gone out in early June on a canoe trip? All the time, and so have I.”

So here we are on this Rocky Point. Ian’s wife, Lisa, is back at our canoes, as is my common-law wife, Andy. It’s a beautiful day, and the water looks manageable, if rough.

Twenty years later. A turbulent vista.

“I say we just wait it out,” he suggests.

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CASE STUDY #2 : ADAM'S STORY

Lessons Learned II

By Kay Landis, with the assistance from Phil Dzialo

In the summer of 1998, Adam Dzialo was 12 years old. Blond haired, blue eyed, wiry, and athletic, he was a boy who loved sports and was good at everything he played. In baseball, he was an all-star. In hockey, he was the goalie who stopped five penalty shots in a row to lead his team to victory. He enjoyed soccer. He excelled at golf. When he wasn't playing a sport, he was at a sports camp. "He was in perpetual motion," says Phil, Adam's father.

Adam's family had a busy summer planned for him that year. He was signed up for six sports camp, including Team Adventure, an outdoor program run by the local community college. The Team Adventure brochure promised "five days of fun and excitement!" featuring a ropes course, rock climbing, canoeing, hiking, a river crossing, and one overnight camping trop. No previous experience was required; participants needed only to have an eagerness to learn new skills and an interest in having fun.

Adam was the 13th boy to sign up for the Team Adventure camp that week. The program was normally limited to 12 participants, as the brochures and advertising stated, but the director was willing to bend the rules and raise the cap to allow Adam and a 14th boy to enrol. The program had a new van, with greater capacity, and the director felt the leaders could handle the two extra youths.

Team Adventure. Team Adventure was an adventure program for kids (ages 12 to 15) run by Adventures Unlimited, a non-credit community education program of Greenfield Community college (GCC). Adventures Unlimited was well-established and had been successfully running custom outdoor courses for youths since 1991. Team Adventure was in its second season.

Team Adventure was managed by a part-time director and staffed largely by graduates of GCC's Outdoor Leadership Program (OLP). The two programs (OLP and Adventure Unlimited) maintained separate offices and reported upward to different college administrators, but they shared equipment and a certain symbiosis of purpose. The OLP academically prepared graduates to lead entry-level adventure outing and services and Adventure Unlimited offered OLP students and graduates employment opportunities as instructors and trip leaders. Adam's camp was run by two of these graduates, Patrick and Heather; the program director was also a graduate. Partly because these programs shared equipment, Adventures Unlimited was able to keep its costs down and offer its courses at substantially lower rates than most commercial programs.

The Team Adventure activities were designed to introduce participants to a different type of outdoor skill or experience each day. The kids had the opportunity to complete a ropes course, climb a rock face, canoe a river, and practice a river crossing, then finish up with a Thursday night campout and a Friday summit hike. On many of the earlier trips, however, participants complained about the Friday hike; it just wasn't exciting enough. Heather and Patrick had asked for permission to alter the itinerary for the group and try a river swimming and rescue drill instead. Permission was granted.

And so the itinerary for Adam's group was modified. The hike to the summit was scheduled for Thursday, and on Friday there would be a hike to Deerfield River where the group would engage in "river activities".

River Activities. Everything went fine on days one through four. The boys all did well on the ropes course, the rock climb, and the canoe trip. On Thursday night, they camped overnight at Mohawk State Forest. The trip leaders described the group as very strong and Adam as aggressive and athletic.

On Friday morning, the group broke camp and headed for the river, stopping briefly along the way to get the water release time. The Deerfield's flow is controlled by scheduled water releases from New England's Fife Brook dam, and Heather and Patrick wanted to times their activity so they could finish before the full force of water hit the group. Before the release, the Deerfield is only a shallow stream. Afterwards, it rises gradually and progressively as a bubble of water makes its way down the riverbed. Boaters time their trips to coincide

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with the release, when the water is at its highest and fastest. Swimmers or waders, however, often want to avoid that increased flow.

Friday's release was set for 10 a.m. It would take a few hours for the bubble to reach the site where the day's activities were planned, so the instructors felt no need to rush. After obtaining the release time, the leaders stopped the group for lunch, discussed how to read water with the students, and fit them with life jackets. They tested each jacket by attempting to lift it over the boy's head. At just 90 pounds, Adam was a little small for an adult-sized jacket, but it passed their test, and they decided it was an acceptable fit.

The site the leaders had chosen was Class I rapid with a cobbled bed, a place where the river narrows, then drops gently, creating a two-foot wave. The Safety Code of American Whitewater determines that Class I rapids have "fast-moving water with riffles and small waves… few obstructions, all obvious and easily missed with training. Risk to swimmers is slight; self-rescue is easy" (AWA 1998). It seems like an excellent choice for a swimming and rescue drill, and indeed had been used for this kind of activity many times by multiple organizations.

On the bank, the group split into two teams. The swimmers went upstream with Patrick while the rescuers (eg, rope throwers) went downstream with Heather. They stopped about 200 feet apart.

Upstream, Patrick provided a briefing for the swimmers, explaining where to swim (near the middle of the river), the proper position (feet up and pointing downstream), how to grab the throw bag, and what to do if the throw bag missed (swim to shore). It had been predetermined that before each boy went, Patrick would look both ways and give a thumbs-up sign to Heather, to indicate he was ready. When Heather returned the sign, the swimmer would be free to go.

Downstream, Heather explained the proper use of throw bags to her group and positioned two rescuers neat her side, along the bank. The plan was that if the first throw bag missed the swimmer, the second boy would throw his bag. After a swimmer finished his turn, he would join the rescuers. After a rescuer threw his line, he would hike upstream to join the swimmers; this way every participant would have a chance to experience both roles. The boys were not required to participate in the swim, and a few opted out. But all those who wanted to try it took a turn, and all completed the exercise without incident.

At 1:25 pm, the leaders brought the group together again. Patrick had to drive one of the boys upstream to meet his mother at a prearranged pickup point. He would be gone about ten minutes. A second boy volunteered to go with the two. Heather said she felt comfortable continuing the exercise in Patrick's absence, so some of the boys went back upstream with the rescuers. The signalling system would be the same, but the boys decided for themselves when to enter the water.

By this time, the full release of the dam had arrived. Commercial rafts began to appear, carrying guides and clients. Two boats had already gone by. A third came up just as Adam was preparing for his swim. The guide asked if the boys wanted to go first, and they said no, they would rather wait. The guide ran the drop, then spun his boat around to face upstream so his guest could watch.

What happened next was described by the guide and is summarized in the investigative report: "Adam was floating in a seated position, feet low and head up. He waved to his friends downstream, then appeared to stand up. His body flipped over and disappeared under water. His arm came up once or twice as he struggled… [and perhaps] the back of his head appeared for a split second" (Wallbridge 1998).

Just before Adam went under water, one of the boys with Heather asked her a question about the timing of the throw-rope toss. She glanced away from Adam for a brief moment. When she looked back, Adam was gone. In his place was an orange and yellow object bobbing in place under the water at about midstream.

The rescue. With the frantic cries from Adam's teammates ringing in her ears, Heather ran upstream along the shore and tried to swim out to the boy. The current forced her back downstream. A fourth raft came along momentarily, and the guide tried to grab Adam as he went by. But Adam was too deep, and the water was too strong. He missed.

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During the next few minutes, 21 boats in two groups (running close together) all came upon the site. Assessing the situation quickly, several of the rafting guides pushed their boats to shore, discharged their passengers, and joined the rescue operation. Several attempted to wade out Adam. All were swept away by the current. Some of the guides then tried to create a human chain to reach the boy, but the current was too strong. More than five minutes had passed since Adam went under.

Next the group created a "tag line". Several guides and dozen of raft customers were used as anchors, holding onto a rope that stretched from shore to shore. Rescuers moved hand-over-hand toward Adam, facing upstream. Several guides were able to reach Adam, and while maintaining a hold on the rope with one hand, they reached under the water with their free hands. One guide was able to get a firm grip on Adam's life jacket. He let go of the rope, pulling as hard as he could with both hands. He was able to pull the life jacket free, but Adam's foot remained lodged. Adam had now been under the water for 15 to 20 minutes.

Because there was too much slack in the tag line, which allowed rescuers to get dragged under the surface of the water, trees were added to the onshore anchor systems and additional ropes were used to pull the tag line taut. Finally, four men attached a raft to the line across the river and manoeuvred it as close as they could to where Adam was trapped. A fifth man threw them a rescue bag and used it to pull the boat into a better position. One of the men in the raft reached down more than two feet into the water. With his own face submerged, he pulled Adam's head to the surface. He started rescue breathing while two others worked to pull Adam free. It took all their strength, but at last they were successful.

Meanwhile, Patrick had returned, several people had called 911, and emergency personnel had already arrived on the scene. Within minutes Adam was transferred to an ambulance, carried to a nearby heliport, and flown by helicopter to Bay State Medical Centre. He had been under the water for 25 minutes.

The first three Months. After the first 72 hours, the doctors told Adam's parents that he would live. However, they held out very little hope for a full recovery. Adam had suffered from "anoxic encephalopathy" as a result of the near drowning; the neuromuscular system that controls movement had been damaged. Doctors, at that time, said that Adam would not walk—or talk—again.

Adam spent six weeks in Pediatric Intensive Care and several more at the Connecticut Children's Medical Centre. His parents never left his side. He was finally able to return home in September—nearly two months after the incident—still unable to move or speak.



For your benefit, fill out the case study questionnaire and then read the rest of the case study.

Investigator Report. Walbridge (an investigator hired by the College) concluded that Adam's near drowning was a case of foot entrapment, brought on by a combination of factors, including poor swimming technique and bad luck. The following excerpt from his report (1998) describes what can occur in this type of situation:

Foot entrapments result not from controlled wading, but from thrusting your foot blindly to the bottom when floating or swimming. You won't always catch your foot, but if you do, you are going to be out of balance. Once your foot is caught in deep fast water no one is fast enough to pull their foot out or strong enough to stop the current from pushing their body under water.

Walbridge's report found no fault with the suitability of the activity, the site or any of the equipment. It was "an excellent choice for a river swim and throw-bag drill… the last place any of us would have expected to encounter a foot entrapment," he wrote. The drill themselves were "an expected part of a well-designed whitewater training program" because they taught swimmers how life vests and proper body position could keep them safer in moving water. "In an area with many fast-flowing wavers, that's an important lesson in water safety that could save lives". The investigator also opined that a better-fitting life vest, a different kind of footwear, or a helmet would not have made much difference in the outcome. More effective instruction, he concluded, is the only thing that might have increased the odds for Adam.

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Although the Team Adventure instructors are confident that they warned the students not to stand up, adults who met with the students during a counselling session reported that the boys were not familiar with the term "foot entrapment" and did not understand what had happened to Adam, suggesting that the activity orientation regarding the risks and proper techniques was not as thorough or effective as it should have been. The split briefings, which likely made it difficult to ensure that each student had received proper instructions, might have contributed to missed communication. And it was "probably a mistake" to continue the drill after Patrick left the group, according to Walbridge's report (1998). With Patrick gone, the student-to-staff ratio was 12:1, which is twice the commonly accepted industry standard of 6:1 (for supervision of this type of activity), and twice what the program had promised parents in its promotional materials. With no instructor upstream to coach the swimmers, there could be no reminder of the hazards or proper swimming technique as they entered the water. "Many whitewater safety rules are counterintuitive" noted Walbridge, "and floating rather than standing up is one of these. Adults and kids who panic in current may attempt to stand despite instruction. … The warning not to stand may need to be reminded several times to sink in."

In the end, Walbridge concluded that the accident had no single cause. Poor technique combined with inherent risk resulted in an entrapment. Admittedly, the activity could have been better organized, could have been better instructed, and could have had a better student-to-instructor ratio. But there is a "random element of uncontrolled risk" in all outdoor activities, and it was this risk that was to blame for Adam's injuries.[2]

[2] From Lessons Learned II: *Using Case Studies and History to Improve Safety Education* (pp. 5–30), by D. Ajango, 2005, Eagle River, AK: SafetyEd: Safety Education for Outdoor and Remote Work Environments.

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ACTIVATE YOUR BRAIN ANSWER KEY



***Activate Your Brain #1*:**

What are the three types of reflection? Explain.

Inductive reflection creates general concepts from specific experiences.

Deductive reflection makes specific predictions based on general concepts.

Evaluative reflection is used to analyze the accuracy of the prediction, and then we use this analysis as a new specific experience to help us define the general concept or refine the base of experience.



***Activate Your Brain #2*:**

What are the three phases of problem solving?

The three phases of problem solving are:

(1) Assessment phase

(2) Analytical phase

(3) Creative phase

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***Activate Your Brain #3*:**

Discuss three ways in which you could develop your judgment.

Answers may include:

- Listen to the rules and the exceptions to those rules.
- Gather as much information as possible from lectures, historical case studies, and the horror stories of other leaders.
- Observe other leaders and how they use judgment.
- Develop a questioning attitude and inquire about the predictions others make. Recall personal near misses and share them openly with others.
- Consider the analysis of personal mistakes made by others.
- React, either verbally or in writing, to uncertain situations posed by other leaders.
- Keep a logbook of experiences and a judgment journal, reflecting on those experiences.
- Get experience at every opportunity: never turn any reasonable chance to lead.
- Take a group of peers on an expedition and ask for their honest feedback.
- Undertake practical internships with several programs, always asking someone to observe you and give advice.
- Become an apprentice to an expert leader and have this mentor guide you and pass on responsibility in a gradual manner.

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