

DECISION MAKING IN THE MOUNTAIN ENVIRONMENT

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ABSTRACT: Mountain guides are making decisions on a continual basis. Some of them are as seemingly simple as “Which boots should I wear today”? Some are as complex as “Will this slope avalanche and kill people, if I take my group down, across, or up it”? Statistics from the International Federation of Mountain Guides Associations (IFMGA) Spring 2002 Meeting indicated that it may be more dangerous to ski with a mountain guide than without one. More people died while travelling in the care of a guide than did while travelling unaccompanied. Needless to say this was cause for some concern.

The goal of this study was to identify the best practices that are currently being used in the development of quality decision-making processes in trainee guides. This research paper is significant in that mountain guiding activities, and specifically the training of the decision making process, have not been studied before in a formalized manner. There have been many instructor exchanges between IFMGA countries and the IFMGA Technical Directors meet on an annual basis, but there has not been a study, which highlights the various best practices.

Training and assessing leaders in decision-making in mountain terrain is a complex task. There is a wealth of experience within the guiding associations of the member countries of the International Federation of Mountain Guides Associations (IFMGA). It was my intent to observe the training and assessment process and to exchange information with the instructor/examiner teams and the candidates.

Keywords: decision making, training, coaching, assessment.

1. THE RESEARCH PROBLEM

Training a guide candidate to properly construct a belay anchor or to create a rescue system to extract a person out of a crevasse is a fairly objective process. The results of this process are relatively easy to assess. Training and assessing decision-making is a much more subjective process. Adventure based decisions are grounded in the collective experience of an individual. These experiences will have been both positive and negative. Although we learn from both our mistakes and our successes, it is the feedback process that is essential to our growth. Unfortunately in the adventure environment the consequences of a poor decision may prove to be fatal. We may learn our most potent lessons through trial and error, but surely we can also learn through coaching, and vicariously through other’s experiences. In the wilderness environment, we are making decisions all the time. Some of them are good decisions and some of them are not. The question is, “How do we know when we are making a good decision”? For example, if we

are making a decision on the stability of a slope, the question in our minds is “Will the slope avalanche?” We take observations, integrate this with our general knowledge of the snowpack and terrain, and then we decide. If we decide it is safe and we ski the slope, and it does not avalanche; did we make a “good” decision or were we just lucky. If the slope was in fact unstable and we were just lucky that it did not avalanche, we do not receive this feedback. The feedback that is inherent in the situation is that we made a good decision, not a bad one. Thinking we made a good decision, we will then move on to the next slope, using the inherent feedback from our first decision to base our next decision on. This chain of events may eventually lead to a fatal error. It is also important to recognize how and when conditions are changing, and the effect that those changes will have on our decisions. In the words of Madam Justice Koenigsberg, who presided over the lawsuit of Ochoa vs. Canadian Mountain Holidays, “the decisions by heli-ski guides have a very low shelf life”. The most difficult task facing a certifying body is the training and assessment of decision-

making skills. In the mountain environment, these are life and death skills. A candidate who passes an exam is deemed to have quality decision-making abilities. How well have these skills really been assessed? Do we have any way of predicting how well anyone will perform in the future? Is the snapshot of decision-making ability that is viewed during a week-long exam really sufficient to base a certification on?

2. PROJECT OBJECTIVES:

1. To observe mountain leadership training and assessment procedures in four (France, United Kingdom, United States and Canada) IFMGA countries' guide certification programs and in the Canadian Avalanche Association Training School (CAATS) with the intent of creating a list of best practices.
2. To document and study the various methods of training and evaluating judgement in a mountain environment, in particular the role that, human factors play.

3. REVIEW OF LITERATURE

A simple model of human performance is the starting point. This model suggests that we: 1) gather information, 2) process that information, 3) assess the options, 4) make decisions, 5) act on those decisions, and 6) there is a change process at work and we can learn from those changes. (CAATS, 2002) It is the human factors of physical, mental and social well-being that tremendously impact how well or poorly an individual will make decisions.

There are many factors at play in this model. They include internal, or human factors, external or environmental factors, and luck. This research project has focused predominantly on the human factors. Safety is based in attitude not experience. Luck is mentioned here, but it falls outside the scope of this project. It is a part of the decision-making mosaic, but is in itself a huge area of investigation. The Alpine Club of Canada (2002) lists bad luck as a contributing cause on the Alpine Accidents in Canada webpage. "Mountain activities have inherent dangers which are sometimes unpredictable or avoidable, including spontaneous rock or ice

fall. People are sometimes just in the wrong place at the wrong time."

McMenemy (2001) in a discussion on pilot errors in the cockpit, provides a definition of "Human Error" as "a generic term used to describe all those occasions where a planned sequence of mental or physical activities fails to achieve its intended outcome, and when these failures cannot be attributed to outside intervention". He also describes judgment as "an act, (which) is likely to be called an error, or the result of bad judgment on the basis of the outcome, rather than on an objective evaluation of the act itself. Too often as long as there are no unwanted results, people in charge condone, or even encourage shortcuts. When the shortcut goes very wrong, some of these same people are often the first to call for the most vigorous punishment, not for those who condoned the practice, but for the operators who were trying to comply with the requirements as they understood them".

McMenemy (2001) also notes that the tradition Business School model of Decision-making does not apply in an operational setting. It is much too rigid and time consuming to be applied in a dynamic action setting. He credits Rasmussen with identifying three levels of human performance in the operational decision-making scenario: skill-based, rule-based, and knowledge-based. Skill-based performances are grounded in well-learned routines that are implemented with little conscious thought. Rule-based performances are implemented when the skill-based behaviours are insufficient. These rules, or protocols are patterns, which help us consciously do the right thing. The final stage of knowledge-based performance comes into effect when we face a novel situation, something, which we have not had to deal with before. We must assess the situation and form a plan. Many guiding decisions occur within this context.

3.1 *Human factors Analysis*

3.1.1 *Physical*

The physical factors of sleep, food, rest, alcohol, drugs/ medications, stressful events, illness and injury were included on the participant questionnaire as they are the common human issues which have been

included in other studies on human factors. Coren (1996) has done some significant work on sleep deprivation which indicates that IQ will drop with a reduction in the numbers of hours of sleep. This would certainly can play a role in the decision making process of an outdoor professional.

3.1.2 Situational Awareness

One of the key human factors identified is Situational Awareness. Situational Awareness is described as being the ability to: maintain an accurate perception of the external environment, identify the source and nature of problems and detect a situation requiring action. It is a clear understanding and awareness of: where you are, how you are, and what is happening that may affect you. "When people have well-developed situational awareness, they can make the continuous adjustments that prevent errors from accumulating and enlarging. Anomalies are noticed while they are still tractable and can still be isolated." (Weick, 2001 p.13)

To a large extent our situational awareness is affected by our perception. There are numerous implications and considerations around our perception of reality. Two people standing side by side can have two very different perceptions of a jointly viewed incident. This demonstrates that our perception although it reflects our reality, it may be flawed when compared to what actually happened. A good example of this is demonstrated through the use of instant replay cameras for sporting events. "I could have sworn that the puck went in the net." Quite often, our perception is influenced by our desires, interests and expectations. We can also be quite selective in seeing what we want to see. If we really want to ski a slope, we may look for all the evidence that supports the decision to ski the slope and disregard or reduce the significance of evidence that contradicts our pre-made decision.

3.1.3 Personal Awareness of Risk

To a great extent, the core of decision-making boils down to our personal awareness. We all have our personal biases and this is particularly significant when Wilde's (1994) Target Risk is considered. In this he defines Target Risk as being the level of risk a person

chooses to accept in order to maximize the overall expected benefit from an activity. He also argues the concept of Risk Homeostasis, which is "the degree of risk-taking behaviour and the magnitude of loss due to accidents and lifestyle-dependent disease are maintained over time, unless there is a change in the target level of risk." He is arguing that we have an optimal level of risk, which we will seek to maintain. If we adopt the use of a helmet for skiing, the tendency will be for us to then ski faster so as to maintain a homeostatic level of target risk. We have added a layer of protective equipment, but this will only make us safer if we change our level of target risk. Taking this analogy to the guiding environment, adding another layer of protective equipment such as an ABS pack, may not necessarily lead to the desired outcome of a safer experience for our guests.

"It is evident that risk taking is not a personality trait that is consistent from one situation to another. Similarly, the tendency to have accidents is not consistent from one time period to another. To believe otherwise may well be an example of the "fundamental attribution error". This expression is used by social psychologists to refer to the fact that people typically attribute another person's behaviour to that person's lasting character and not often enough to that person's passing state or the prevailing environmental condition." (Wilde, 1994 Ch. 10) As we age our level of target risk changes. Young adult males seem to accept the highest level of target risk. This would be part of the reason that car insurance rates are higher for the 18-24 age bracket. From 1984 to 1996 over 30% of avalanche fatalities in Canada were under the age of thirty and 90% of all avalanche fatalities were male. (Jamieson and Geldsetzer, 1996 p.8)

3.1.4 Effect of Training on Target Risk

There are a number of paradoxes when it comes to education and training with regards to risk management. The first is the effect of training on target risk. In a study done on driver education in Georgia, it was found that the new drivers who received the "best" training had the highest accident rate in the following four years. (Wilde 1994) New drivers were randomly assigned to three groups. The group that knew that they had received the "best" training had developed a level of

confidence that exceeded their newly acquired skill level. They were willing to accept a higher level of target risk because they perceived their skills to be higher than they actually were. This has serious implications for adventure training and certification programs that place great emphasis on the quality of their program and pride themselves in producing the highest caliber of graduates.

The second paradox comes in the education of the general public to hazards. An example of this is the Canadian Avalanche Association Public Avalanche Bulletin. This information source needs to produce a synopsis of the available data and an appropriate hazard rating. This may come across as a warning of the potential danger. There is a fine balance to be struck. According to Wilde (1994, CH 10) "This is why over-use of warnings may be dangerous. A warning that is not perceived as needed will not be heeded--even when it is needed. 'A warning can only diminish danger as long as there is danger.' This is the paradox of warning. It sounds puzzling, but what it means is that warning signs can only make people behave more cautiously if they agree that their behaviour would probably have been more risky if they had not seen the warning sign. Similarly, 'a warning can increase danger when it overstates danger', meaning that a person's behaviour may become less cautious if that person has learned that the danger is usually less great than stated in the warning." So consistently rating the avalanche hazard as being higher than it really is may actually put people at greater risk.

In a study of avalanche training in the States, McCammon (2000, p.31) found that trained recreationists represented over 33% of avalanche victims. It was also found that "victims with basic formal training appear more likely to expose their group to a greater degree of hazard than victims with advanced or no training." Perhaps introductory avalanche courses need to focus on how much of the avalanche phenomenon is not covered in the course. The participants need to have an understanding of how much they do not know. A direct application of this to the adventure industry is the question of whether new avalanche safety devices will have an effect on the number of people who die each year. Will having an Avalung and an ABS pack make you any safer? The Avalung is a breathing apparatus, which should allow a fully

buried victim to survive longer. Exhaled CO₂ is disbursed out behind the victim, while residual oxygenated air is inhaled from around the head and neck. To actually save a life, the victim must keep the mouthpiece inserted in his/her mouth during the tumbling action of the avalanche and not have sustained any life threatening injuries on the way down. The ABS pack is a balloon system, which must be activated by a pull cord. The air bags keep the victim on the surface of the sliding snow. Again, the victim must not have sustained any life threatening injuries on the way down. Both of these devices have the capacity to save lives in specific situations. However, if target risk is to be maintained, there may be a tendency to take greater risks and ski steeper more suspect slopes. These devices will allow access to more radical terrain while maintaining the same risk threshold. It is possible to actually be safer with these devices, but it requires a resetting of the target risk. It means imagining that the devices are not present and skiing in a more conservative manner.

3.1.5 Managing the Unexpected

In their book "Managing the Unexpected" Weick and Sutcliffe identified what they called the Hallmarks of High Reliability within an organization. These characteristics of High Reliability Organizations (HRO) make up what has been termed *mindfulness*. They include: a preoccupation with failure where error reporting is encouraged and near misses are examined for clues. There is also a reluctance to simplify interpretations. It is felt to be desirable to create more complete and nuanced pictures of what is happening. Next is a sensitivity to operations. It is important to look for latent failures within the system. These are "loopholes in the system's defenses...whose potential existed for some time prior to the onset of the accident sequence, though usually without any obvious bad effect." (Weick and Sutcliffe, 2001, p.13) There is also a commitment to resilience. It is important to recognize that errors are still going to occur, so keep them small and learn from them. Finally, deference to expertise is essential. Decisions are made on the front line, and authority migrates to the people with the most expertise.

"The environment of HROs is one in which there are high-risk technologies. These

technologies must be mastered by means other than trial-and-error learning, since in many cases the first error will also be the last trial. HRO environments unfold rapidly and errors propagate quickly. Understanding is never perfect, and people are under pressure to make wise choices with insufficient information.” (Weick and Sutcliffe, 2001 p.21)

“Safety is elusive because ‘it is a dynamic non-event – what produces the stable outcome is constant change rather than continuous repetition.’ The problem is that when a system is operating safely and reliably there are constant outcomes and nothing to pay attention to. That does not mean that nothing is happening, even though it is tempting to draw that conclusion. Quite the opposite. There is continuous mutual adjustment.” (Weick and Sutcliffe 2001, p.30-31)

“Safety is not bankable. It cannot be stored up and used on a rainy day. “If the people on a carrier have been failure free for sixty-seven days, that does not mean that their system is safe. And it does not mean that their attention and effort can be relaxed. Instead, all it means is that the unexpected has not yet escaped containment.” (Weick and Sutcliffe 2001, p.32-33)

“In that brief interval between surprise and successful normalizing lies one of your few opportunities to discover what you don’t know. This is one of those rare moments when you can significantly improve your understanding. If you wait too long, normalizing will take over and you will be convinced that there is nothing to learn. Most opportunities for learning come in the form of brief moments. And one of the best moments for learning, a moment of the unexpected, is also one of the most short-lived moments.” (Weick and Sutcliffe 2001, p.41)

The process which led, to the last flight of the space shuttle Columbia is a classic example of this. The foam strike, which occurred on takeoff, was not considered to be significant, even though foam was not supposed to fall off and hit the shuttle. In addition to this, the shuttle was not designed to withstand such a hit. However foam had been falling off and hitting shuttles since 1988. The first time it happened a damage assessment was conducted. The wing was damaged, but not severely. “Nonetheless, over the years foam strikes had come to be seen within NASA as an “in family” problem, so familiar that even the most serious episodes seemed

unthreatening and mundane...He (Douglas Osheroff) told me that the shuttle managers acted as if they thought the frequency of the foam strikes had somehow reduced the danger that the impacts posed...after more than a hundred successful flights they had come to blithely accept the risk”. (Langewiesche, 2003, p. 78)

3.1.6 The Importance of Experience?

One of the most significant questions that we need to ask ourselves is “What have we learned from our experiences?” Certainly previous experience in a similar situation can provide a tool for evaluating a current situation. However there is also the potential to be misled by previous experience as noted by McAmmond (2002). It is entirely possible that previous experiences have negatively impacted the ability to make a quality decision. “Experience by itself is no guarantee of expertise, since all too often people have the same experience over and over and do little to elaborate those repetitions.” (Weick and Sutcliffe, 2001 p.16)

Another area that has had some debate is the question of the importance, or significance of a near miss. One line of thinking results in downplaying the reporting of near misses within an organization, as it may be taken as being indicative of poor decision making in the field. The guide who has a near miss in the field may not report it to the office because they do not want to be labeled as a poor decision maker. The counter argument to this is that a number of related near misses can be a good indicator of the need for a change in procedures. “High Reliability Organizations encourage reporting of errors, they elaborate experiences of a near miss for what can be learned, and they are wary of the potential liabilities of success, including complacency, the temptation to reduce margins of safety, and the drift into automatic processing. (Weick and Sutcliffe, 2001 p.11)

Guides who are operating in isolation with little opportunity for exposure to other “experts” through professional development activities may begin to suffer from a limited world view. Weick and Sutcliffe (2001 p.15) define experts as “personnel with deep experience, skills of recombination, and training. They mentally simulate worst-case conditions and practice their own equivalent of fire drills.” The decision making process may be tainted by the

perceived size of the pond. Is this the case of a big fish in a small pond, or a big fish in a big pond?

3.1.7 Recognition-Primed Decision Making

Lipshitz et al, (2001) have described a process that an experienced decision maker will progress through. They call this the Recognition-Primed Decision Making (RPD) model and it has three variations:

“In the simplest variation of the model, a decision maker sizes up a situation and responds with the initial option identified. The hypothesis is that skilled decision makers can usually generate a feasible course of action as the first one they consider...In this variation, experience provides prototypes or functional categories...Skilled decision makers perceive situations as typical cases where certain types of action are typically appropriate, and are usually successful... The second variation...describes what happens if the situation is not clear. Here, the skilled decision maker will often rely on a story building strategy to mentally simulate the events leading up to the observed features of the situation... The third variation describes how decision makers can evaluate a course of action without comparing it to others... The evaluation is conducted by mentally simulating the course of action, to see if it will work, and to look for unintended consequences that might be unacceptable.” (Lipshitz et al, 2001, p. 336)

The first variation is used under conditions of extreme time pressure. Under conditions of uncertainty, the second variation provides a useful strategy. The third variation comes into play under shifting conditions. The RPD model is particularly useful when dealing with poorly defined goals as the intent is to move forward using the existing conditions, rather than backwards from a pre-determined end result. This is not a recommended strategy for inexperienced decision makers. It does provide a useful strategy for experienced decision makers who are faced with making time critical decisions under conditions of uncertainty. Lipshitz et al defines uncertainty

as “a sense of doubt that blocks or delays action” (2001, p.337) This definition was broken down to identify three forms of uncertainty. They are “inadequate understanding (a sense of having an insufficiently coherent situational awareness), lack of information (a sense of having incomplete, ambiguous, or unreliable information), and conflicted alternatives (a sense that available alternatives are insufficiently differentiated).” (Lipshitz et al 2001, p.338)

4. OBSERVATIONS

4.1 France

The Aspirant Winter Guide exam, held at ENSA in Chamonix was observed in January. The format for the course was Monday to Friday for three weeks. The days would typically begin at 08:00 and finish at 19:00. I was provided with accommodation in the facility at ENSA and ate all my meals with the candidates in the ENSA cafeteria. The cost of this was born by ENSA. Most days would begin with an instructor meeting at 08:00, and finish with a classroom session from 17:00 TO 19:00. The days were spent ski touring or ice climbing, frequently accessing terrain via one of the many gondolas.

4.2 Canada

The Guide Training Ski Touring in Roger's Pass and Assistant Ski Guide Exam in Naden Pass were observed. Guide Training occurred in February and started the day after the avalanche in Connaught Creek claimed the lives of seven teenagers on a school trip. The course was based out of Glacier Park Lodge and involved long day trips. The Assistant Ski Guide Exam occurred in late March in Whistler. After spending two days confined to the ski area, we were finally able to fly into Naden Pass. We established a base camp and did day trips based out of it for five days. The final leg of the exam involved skiing out across the final part of the Spearhead Traverse to Whistler Ski Area.

4.3 Great Britain

The Mountain Leader Assessment was based out of Glenmore Lodge – the National Mountaineering Centre for Scotland. Although this certification program does not train and assess mountain skills to the same level as the mountain guides program, it is well established, and highly respected. I had previously observed part of the Mountain Leader training course, so it was of great value to observe the assessment process. This program is widely delivered throughout Great Britain. It has some similarities with the ACMG Hiking Guide and Backpacking Guide Certifications.

4.4 USA

The AMGA Level 1 Alpine Guide course was observed. The first half of the course was delivered in Lander, Wyoming and the second half in Teton National Park. This was a small course with only three participants and one instructor. I spent significant off course time with the instructor during the first half of the course and with the candidates during the second half and was thus able to gain a fairly in depth understanding of the course.

4.5 Questionnaire Results

4.5.1 Comments from the candidates as to the

factors that hindered the decision making

process:

My fears and perceptions of risk to myself and others.

Pride made it difficult to say that I was tired and needed a slower pace.

It was cold and we were tired.

Because I was on assessment, I thought I should appear to be coping.

I would not normally have chosen to lead a group up that sector.

The instructor's scrutiny

Not being sure if the existing uptrack was a good one

Concerns over what the instructor might think

Self doubt

Starting to get sick and being a bit tired

Tragic recent avalanche fatalities.

The expectations of the instructor and the fear of screwing up

Knowing that the route selected was not the "standard" route.

Unknown terrain

Perception of expectations from the instructor

Knowledge of recent avalanche events

Could not see all of the terrain for one of the descent options.

Forgetting that the other candidates should be treated as "guests"

Forgetting about the avalanche hazard

potential at the end of the day "tuning out"

Recent avalanche events – fatalities

Implied pressure in a simulated exam

situation. Given limited time to come up with a good decision

Approaching poor weather

Testosterone

4.5.2 Comments from the examiners on

methods of helping the candidates develop

better decision making strategies:

Open forum discussion, explanation of alternate methods, reference to standards of acceptable procedure.

Take control of the group to change the instructions to the group due to concerns for group safety.

Review with the candidate and the group about tactics, risks and management tips for down hill guiding.

Discussion right after the lead.

Gave suggestions at the moment and at the end of the day.

Hints were given on the way up as to where to find the best snow for the descent. Additional comments were given during the descent and at the end of the day.

Hints were given at the start of an uphill lead as to the best choice for the route. Additional feedback occurred during, immediately after the lead and at the end of the day.

Discussion after each difficult situation.

Discussion of hypothetical situations

4.6 Human Factors Questionnaire

Thirty-three participant questionnaires were completed for the days, which had significant demands placed on participants in regards to decision making.

The need for sufficient sleep was well attended to, with 70% indicating that they had seven or more hours of sleep. Most participants (67%) had a moderate level (500 calories) of caloric intake in the morning. The majority (57%) had not consumed alcohol in the previous twenty-four hours. Overall, the participants were very healthy and injury free. Only 12% had taken any drugs or medication in the previous twenty-four hours. However, almost half the respondents had been unable to take more than one rest day during the previous week and 18% had taken no days off. Many of the participants on the ACMG Guide Training Ski Touring had been adversely affected by the fatal avalanche accident, which occurred in Connought Creek the day before the course started.

The analysis of the energy and attention component of the questionnaire provides some very interesting data. The participants were asked to allocate what percentage of their energy and attention had gone into: personal needs, perception of the instructor's expectations, terrain challenges, group dynamics, exam/course stresses, and external events.

20% went into perception of the instructor's expectations,
40% went into terrain challenges
12% went into the group and
10% went into personal needs

This poses a very interesting question in regards to the training and exam process. Very little energy goes into the group. This makes sense because the group is made up of fellow candidates and an instructor. They are all very competent. This differs from the real world of guiding where the guests are much less capable and in need of higher levels of attention.

5. OUTCOMES - TRAINING IN MAKING

BETTER DECISIONS

5.1 Preparation of the Ground

There are three essential components that must be included to optimize the learning environment. There need to be trainers that understand the process, learners that are open to learning, and terrain that is conducive to making "real" decisions.

One of the basic assumptions being used here is that "experts" make better decisions than novices. This brings up the question of "What is an expert"? Generally this is associated with many years of experience, in a variety of situations. The critical component is the learning that has occurred as a result of the experiences. As it is entirely possible to develop false or misleading experience, the experiences must be referenced outside of the immediate situation in consultation with other seasoned decision makers. As we have seen in the recent past with the Space Shuttle and other events, even expert decision makers can sometimes be wrong and end up in catastrophic situations.

5.2 Good Trainers

Good trainers must be selected carefully. They must be capable of making good decisions themselves and recognizing good decisions in others. Beyond this, they must be able to nurture the decision making process in their students. This could be considered a coaching role.

These trainers will probably need to be trained themselves. Specifically, they will need to develop highly sophisticated feedback skills. In addition to this, they will need to be able to train the candidates in receiving feedback.

5.3 Train the Candidates

The training of the learners begins with goal setting and the clarification of expectations. It continues with a process that helps them recognize the quality in their decisions. In post trip debriefs, many candidates described their performances in positive tones that did not necessarily reflect the reality as observed by the instructor. The most important attitudinal approach the candidate can take is to accept the existence of more elegant solutions. The greatest contribution that the instructor can make is to describe or even demonstrate these elegant solutions.

5.4 Coaching the decision

With candidates being coached toward an industry "standard" or certification, decisions will ultimately be assessed through a summative evaluation process. Prior to that point, decisions will be assessed using a

formative approach. This necessitates a clear distinction between training days and exam days. On a training day “OK” or “Adequate” is not good enough. It is essential to train the candidates to look for the elegant solutions. On an exam day the rubric will look something like this:

Pass – the decision is good enough. It exceeds the exam criteria

Marginal Pass – the decision is on the line that separates pass and fail

Fail – the decision is not good enough. It does not meet the criteria.

The exam process does not necessarily recognize the elegant solutions, however in the big picture, this is an essential component of the candidate’s growth. The tone during the training course needs to be one of “Yes you are good, but you can also be better”. This may help to address the ego needs of the candidates. They have worked hard to get into the training course and have high expectations of themselves to be successful. Unfortunately this can lead to a situation where the candidate feels the need to express a high level of confidence in his/her decision making and may be reluctant to admit weakness. In this situation the candidate’s ego will negatively affect the potential learning. The question for the candidate is “Are you coachable?” Ideally, the instructor can create an atmosphere of learning that separates the ego from the process. If the ground has been prepared well, the coach should not be afraid of hurting the candidate’s feelings, when giving an alternate solution

5.5 Reflection

Reflections on the decisions that are made during the day are an essential component of the process of developing better decision making skills. Decisions can be debriefed at a variety of points during the day. There are pros and cons to each of these times.

It may be advantageous to make an intervention during the lead. There are various reasons for this. The primary consideration is that of safety. If the candidate appears to be making a critical error that may lead to catastrophic consequences, the instructor must intervene to maintain an adequate safety margin. Another type of intervention is necessary when a candidate makes an error in navigation that will have serious logistical

consequences for the rest of the day. An example of this would be skiing up the wrong valley.

On a more positive note, subtleties in the management of micro terrain are best described at the moment. This coaching of the more elegant solution is ineffective if left to the end of the day. It is a “teachable moment”.

Some level of reflection and debriefing at the end of each lead is of distinct benefit in that it is very timely and focused. The downside is that debriefing at the end of every lead may break up the flow of the day.

If a stop is taken at midday for a lunch break, there is the opportunity to debrief a number of leads. This may make valuable use of “down time”.

The most traditional time for a debrief is at the end of the day. This may also include the components of a “Guide’s Meeting”. The debrief may be formal or informal debrief, but ideally will have some form of structure or format to follow.

5.6 Assessing the decision

The key to making a quality assessment of a candidate’s ability is creation of the situation that demands real decisions in real terrain with real, but manageable consequences.

This involves getting inside the candidate’s head on a regular basis, by asking the question “What are you thinking about here?”

It is important to ask the question both when things are going well and when they are not. The candidate needs to be allowed to assess a situation, come to a decision and to carry through on it. However, it is a delicate balance whether to allow a marginal decision to be enacted vs. the overriding safety considerations of the group. More experienced candidates can be given a longer leash. For example: full guide candidates can be expected to make finer decisions than assistant guide candidates.

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