

problems of heuristics

assessment

problems of mis-alignment

Personal vs Institutional

Heuristic reflection
 - How do you know what you know?
 - How do you know what you don't know?
 - How do you know what you think you know?
 - How do you know what you don't think you know?
 - How do you know what you don't think you don't know?
 - How do you know what you don't think you don't think you don't know?



Tools for Managing Large Groups

objective-based planning

- Why are you travelling in large groups?
- How many is too many?
- How are you choosing your objective?
- How are you choosing participants?



Managing **PEOPLE** or Managing **TERRAIN**?

What do you institutionalize?

- Do you need a policy in your glacier kit?
- What do you do when there is a glacier light trap?
- Can you do the work in single days? If not, what applications?
- What must you bring on a personal climb?
- How do you protect yourself when setting up a topographic staff edge?
- What test and certification do you need?

assessing competency



Personal vs. Institutional Risk Salience
 Institutional Language
 Institutional Practices

Management Tools to Mitigate Compounding Errors

Joshua Cole



NORTHWEST
OUTWARD BOUND SCHOOL

Prezi

desired OUTCOMES

- Understand some primary causes of errors and how errors compound to create incidents
- Work together to assess the source of errors common with large groups
- Learn risk management tools for working with large groups

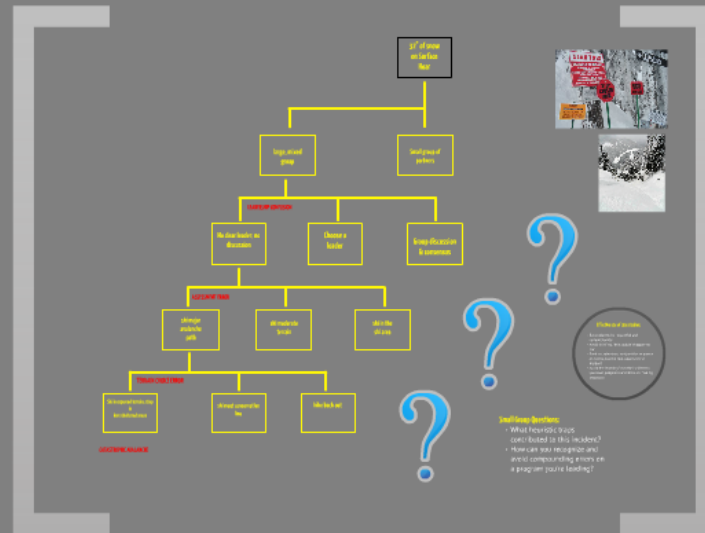
Hazards vs Risks

Hazards: Exist regardless of our choices and actions

Risks: Are the result of our choices and actions







problems of heuristics

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assessments

Small Group Questions

- What are the main benefits of using heuristics?
- What are the main risks of using heuristics?
- How can you recognize and avoid compounding errors on a program you're leading?

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problems of mis-alignment

\$ to donate blood
Ken O'Brien (NFL QB) - financial penalty for each interception
AT&T pays programmers by line of code
You get to go on more advanced trips the more summits you've completed

less blood donated
fewer passes made
unnecessarily long programs
?

personal vs. institutional

competing incentives

problems of



Small Group Questions:

- What are the common heuristic traps of large groups?
- What are common "cultural" heuristics of the mountaineers?
- How can you mitigate these heuristic traps?

"Even though people are capable of making decisions in a thorough and methodical way, it appears that most of the time they don't"

assessment

heuristics

McCammon, 2002



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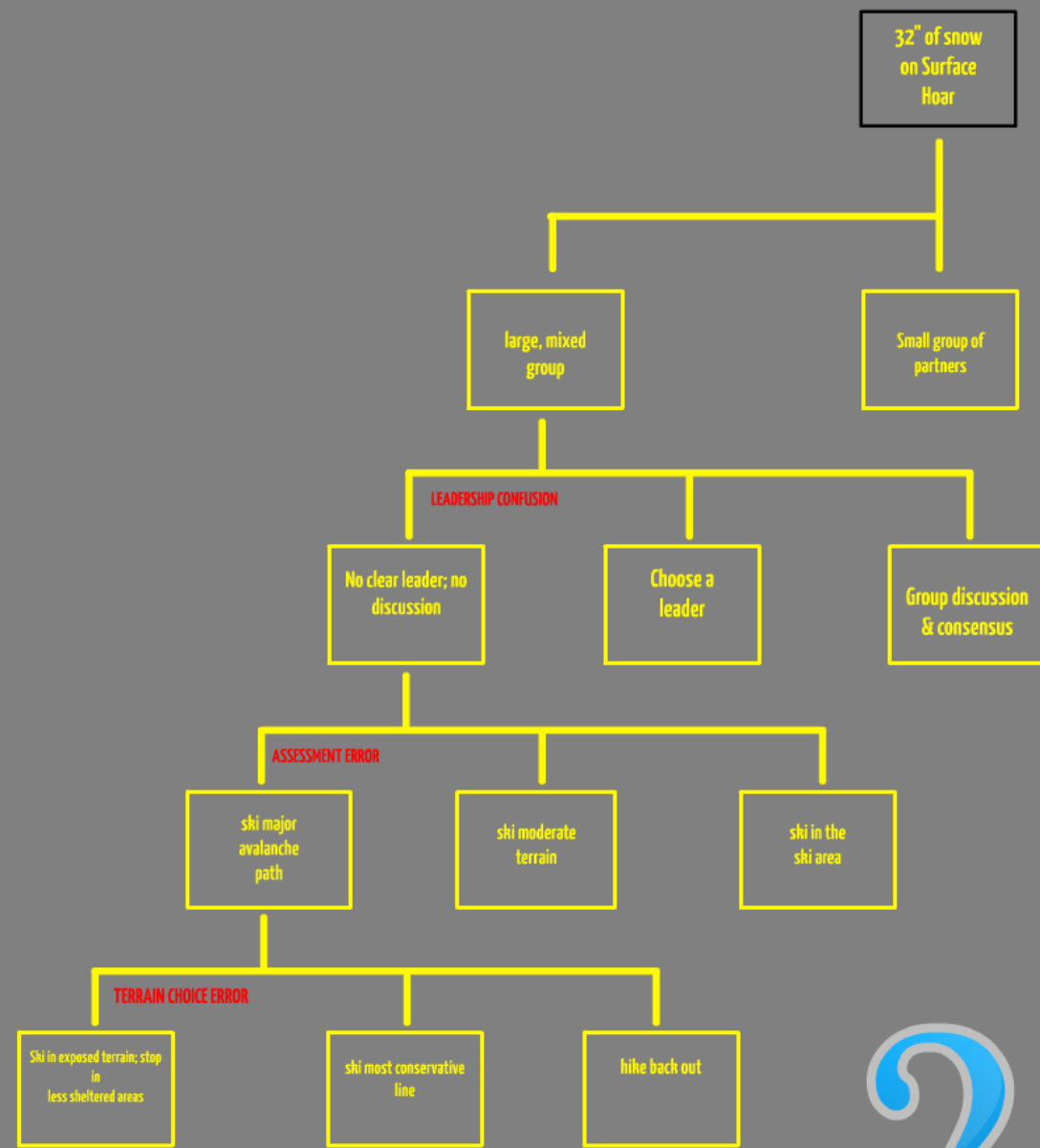
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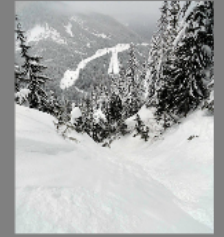
personal

VS.

institutional



CATASTROPHIC AVALANCHE



- Effective use of case studies:**
- Remember to be respectful and compassionate
 - Avoid thinking, "this couldn't happen to me"
 - Seek to understand not just the sequence of events, but the root causes of the incident
 - Apply the learning from the incident to your own judgment and decision-making processes

- Small Group Questions:**
- What heuristic traps contributed to this incident?
 - How can you recognize and avoid compounding errors on a program you're leading?

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READ THIS
SKI AREA BOUNDARY
MINIMUM OF \$1000.00
RESCUE FEE!
DO YOU HAVE A PARTNER, BEACON,
PROBE, AND SHOVEL?
EXPLOSIVES MAY BE USED
IN THIS AREA AT ANY TIME
CONTINUE AT YOUR OWN RISK

  **Solitude**
CREATED

**STOP
CLOSED
AREA**

**HIKING
ROUTE
CLOSED**

WALKING / HITCHHIKING
ARE ILLEGAL ON
US 2 STEVENS PASS
WILPOUT ST TO AT
LICENSING TO YODOLINI

STOP
SKI AREA BOUNDARY
NO SKI PATROL OR
SNOW CONTROL
BEYOND THIS POINT

WARNING
This area is a high risk zone for avalanches. Please do not enter this area unless you are properly equipped and trained. The ski patrol is not responsible for injuries or deaths resulting from avalanches in this area.



32" of snow
on Surface
Hoar

large, mixed
group

Small group of
partners

LEADERSHIP CONFUSION

Choose a

Group discussion



1001

large, mixed
group

Small group of
partners

LEADERSHIP CONFUSION

No clear leader; no
discussion

Choose a
leader

Group discussion
& consensus

group

LEADERSHIP CONFUSION

No clear leader; no discussion

Choose a leader

ASSESSMENT ERROR

ski major avalanche path

ski moderate terrain

ski in the ski area

Decision

Edge

ASSESSMENT ERROR

ski major
avalanche
path

ski moderate
terrain

TERRAIN CHOICE ERROR

Ski in exposed terrain; stop
in
less sheltered areas

ski most conservative
line

hike back out

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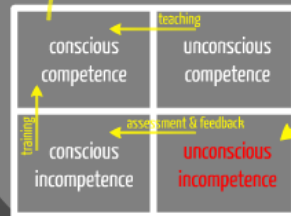


Managing **PEOPLE** or Managing **TERRAIN**?

what are your institutional consistencies?

- do you need a pulley in your glacier kit?
- what do you do when there is thunder & lightning?
- can you climb with a single 1/2 rope? In what applications?
- what must you bring on a summit climb?
- how do you protect yourself when setting up a top rope at a cliff edge?
- what first aid certification do you need?

assessing competency

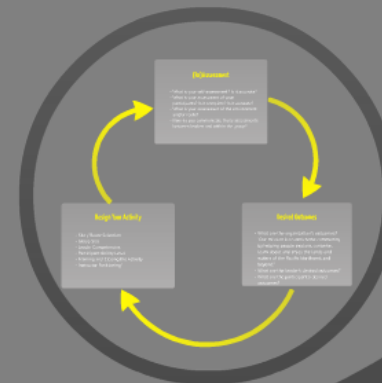


Personal vs. Institutional Risk Tolerance
Institutional Language
Institutional Practices



objective-based planning

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(Re)Assessment

- What is your self-assessment? Is it accurate?
- What is your assessment of your participants? Is it complete? Is it accurate?
- What is your assessment of the environment and/or route?
- How do you communicate these assessments between leaders and within the group?

Design Your Activity

- Site / Route Selection
- Group Size
- Leader Competencies
- Participant Ability Level
- Framing and Closing the Activity
- Instructor Positioning*

Desired Outcomes

- What are the organization's outcomes?
"Our mission is to enrich the community by helping people explore, conserve, learn about and enjoy the lands and waters of the Pacific Northwest and beyond."
- What are the leader's desired outcomes?
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scenario	the Mountaineers should...		
	I would...	the Mountaineers will probably...	
	possible actions		
setting the rope anchors for a group that requires traversing 5.0 terrain with 30 feet of exposure	set the anchors up efficiently. Don't talk.	climb a belter to the first anchor and traverse to remaining anchors	set up a rappel from above with a fixed haul bagging, which takes 30 additional minutes
MR. Rattler, B.C. route. Descending late, get to house but which bolts were loaded	Cross 2 pieces of a line with another	2 most experienced dig a belty pit and assess avalanche hazard. Cross if deemed stable	Convo at top of the route, discuss in the morning. Get home 1 day late
Return Back / Forbidden. Just below the summit, glacier is participant is falling but tried to continue at the pass	Send participant back down the way we came up to camp	Send participant back down accompanied by a stronger group member	slow the pass to keep the group together at the risk of not completing the climb

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scenario

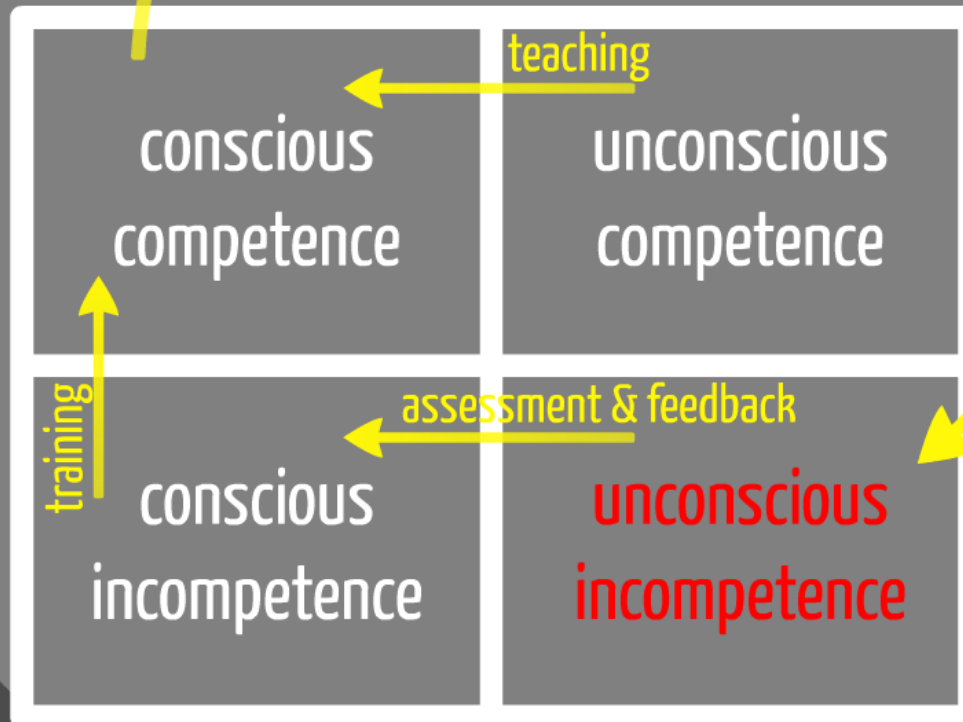
← possible actions →

setting top rope anchors for a group that requires traversing 5.0 terrain with 30 feet of exposure	set the anchors up efficiently. Don't fall.	clip a tether to the first anchor and traverse to remaining anchors	set up a rappel from above with a third hand backup, which takes 30 additional minutes
Mt. Rainier, D.C. route...descending late, get to Dunn's Roll which looks wind loaded	Cross 1 person at a time with spotter	2 most experienced dig a hasty pit and assess avalanche hazard. Cross if deemed stable	Camp at Ingraham Flats, reassess in the morning. Get home 1 day late
Boston Basin / Forbidden...just below the unnamed glacier, a participant is feeling too tired to continue at the pace	Send participant back down the way we came up to wait in camp	Send participant back down accompanied by a stronger group member	slow the pace to keep the group together at the risk of not completing the climb

what are your institutional consistencies?

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assessing competency



Managing **PEOPLE** or Managing **TERRAIN**?

individual reflection

- As a Mountaineers Leader / Trainer, what will you do to avoid heuristic traps and compounding errors?
- How will you design trips that meet clear objectives?
- How will you accurately assess yourself and co-leaders and participants?

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