Taking Conservation to the Public: Strategies for Getting the Message Out There

A workshop in conjunction with the Society for Marine Mammalogy Conference
December 10, 2005

This book was assembled by Cynde McInnis. I wrote a curriculum for a whale watch as my Master's Thesis. I took excerpts from my thesis and put it here to give some background information about interpretation aboard whale and dolphin watching platforms. Much of this information can easily be transferred to other platforms or areas where interpretation about marine mammals is given. If you have questions, or want more information, please contact me at cynde@whalelady.com.

Your Audience

Knowing your audience is important when teaching anything. On a whale watch, or on a cliff overlooking whales, there are often so many people that it's difficult to know where each and every person in your group comes from or what they know. There are many different approaches to teaching at different times throughout an experience with wildlife. The audience also goes through various emotions at different times throughout the experience. On the following page, you will find a description of five phases of a whale watch trip (but again, this could be transferred to any setting.) You will find the goals of each phase, passenger's emotions, as well as approaches to education that I have found successful at different times. When thinking about how to get the message of conservation across, there are times that are better than others because of people's emotional levels or their attention.

Phase 1: Reservation to Introductory Talk

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Passengers make reservations / Boat leaves the dock	Start watching whales	Stop watching whales	Boat returns to dock	After the whale watch

Goal
To set the stage for a fun educational experience.

Passengers' Emotional and Psychological States
A range of emotions describes this phase. Excitement, enthusiasm, and apprehension are a few. Questions passengers might be asking themselves are: Did I get enough sleep last night? Did I eat enough or too much for breakfast? Am I going to get seasick today? Questions passengers often ask staff members are: Where is the best place to sit? Are we really going to see whales today? Are we going to get wet? Should I take a Dramamine? It is a time where people seek information both about the trip itself and also about the animals we might see; having information available and being available as staff is important (Koth, Field, & Clark, 1982).

Passenger motivation for whale watching is varied. My survey conducted in 2001 asked passengers to identify their motivations for whale watching. Some passengers had more than one motivation. To summarize the results, if ten passengers get on the boat:

    4 will want to learn;
    2.5 are there because someone suggested they go;
    3 will have been before;
    6.5 will have come because of a personal reason. (Some reasons cited were being
        interested in marine biology and loving nature in general.)

Approach to Education
In this phase, we are providing passengers with opportunities to learn. By creating a learner-friendly, engaging environment, we hope passengers will begin to realize that the whale watch can be a learning experience as well as a recreational one. During this phase, there is no educator-passenger interaction until passengers board the boat. Until that point, learning is passenger-initiated. We are simply providing the opportunities.

Phase 2: The Trip Out to See Whales

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Passengers make reservations	Boat leaves the dock · Start watching whales	Stop watching whales	Boat returns to dock	After the whale watch

Goals
1. Set conditions for transformative learning to be initiated.
2. Prepare passengers for what we might see.
3. Provide background knowledge about whales and the oceans.
4. Give passengers something to do as we travel to where the whales are.

Passengers' Emotional and Psychological State
Interest in learning is high during this part of the trip (Koth, Field & Clark, 1982). Passengers ask a wide range of questions. They are also excited to see whales and often ask if we are there yet, or how much further we have to travel until we see whales. For some it takes a while to get used to the motion of the boat. If they seem concerned, simply assure them that everything is okay.

Approach to Education
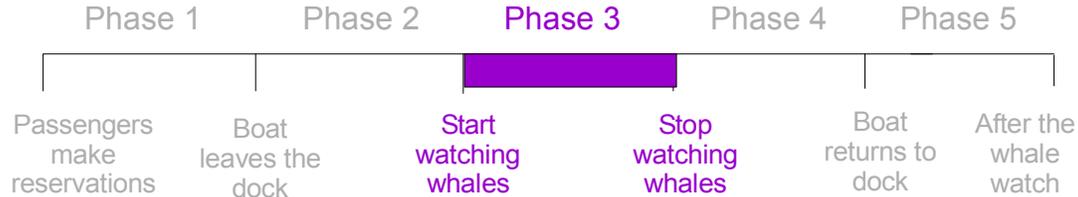**Teaching Tools: How can we best reach our audiences?**
Because we don't know the audience on whale watch trips ahead of time, it's important to present information in as many ways as possible to reach the greatest number of audience members. Teaching tools (like a 3-D model of the ocean floor, or baleen, or songs of the whales) that incorporate the different intelligences, all the senses, and experiential education, help address this issue.

Teaching tools can be thought of as entry points. Entry points are ways to open up conversation. They are a way to engage and entice people (Gardner, 1999). By creating teaching tools which incorporate the different intelligences and senses, every audience member is able to engage in learning about whales.

Interaction with Educators
With teaching tools in hand, educators can gather small groups of people and initiate contact. We answer questions, explain concepts, and are simply available to enhance passengers' learning. The interaction we provide gives people the opportunity to ask questions about specific topics that they are interested in learning about. By having small groups, or one-on-one conversations, we allow everyone the opportunity to maximize their learning potential.

Phase 3: Watching Whales

Passengers make reservations · Boat leaves the dock · **Start watching whales** · **Stop watching whales** · Boat returns to dock · After the whale watch

Goals

1. To interpret the whales' behaviors so that passengers have a better idea of what the whales are doing.
2. Discuss in depth the four themes while passengers are observing whales in their natural habitat.
3. To connect passengers emotionally to the whales they are watching.
4. To encourage reflection in passengers by asking questions such as:
   What impact do we have on the planet?
   How did you realize the impact humans have on the planet?
   Why is it important to think about the impact we have on the planet?
5. To generally increase passengers' knowledge base so that they can make better informed decisions in regards to the environment.

Passengers' Emotional and Psychological State

Passengers are often extremely emotional when seeing whales. For many people it is a first time experience. Some people will want to watch the whales in silence while others will want to learn as much as possible during the time spent with whales. Still others will just want to talk with one another while observing. Some passengers, particularly students, spend much of the time in the cabin playing games or talking. When possible, try to look around the boat and get a feel for what kind of audience you have.

Approach to Education

During this phase, information is given in a more formal manner over the PA. It's important to keep in mind that while education is an important part of the trip, passengers come to see whales. Remember that many passengers enjoy watching whales in silence. Some will find it a spiritual experience; therefore, keep the narration to a minimum. Talk when it's appropriate. You will realize quickly if your talking is inappropriate, as you will hear passengers murmur, or they might say aloud, "Can we please watch the whales in silence!"

In my survey, 66.8% of passengers responded that some aspect of seeing the whales was their favorite part of the trip. Let the whales do the talking when possible!

Phase 4: Returning from Watching Whales

Passengers make reservations · Boat leaves the dock · Start watching whales · **Stop watching whales** · **Boat returns to dock** · After the whale watch

Goals

1. Further facilitate transformative learning through discussion.
2. Reinforce what passengers have learned up until this point of the trip.
3. To reinforce, on a more personal basis, information that was given about conservation and whales while watching the whales through added teaching tools.
4. To clarify passenger questions and encourage their further study of the topic of whales and the ocean environment.

Passengers' Emotional and Psychological State

There is typically a whole range of emotions during this stage. Some people get reflective and quiet. Others are full of questions and want to learn as much as possible on the ride back to the dock. Still others are tired and tend to sleep. This part of the trip is where the whole experience starts to sink in. Passengers try to make sense of their experiences and see whether and how to incorporate them into their lives.

Approach to Education

The approach to education in this phase of the trip is similar to phase 2. Again, there are a variety of teaching tools that educators carry around to engage passengers. Instead of setting a foundation of knowledge this time, passengers are more knowledgeable than they were before and may engage in asking questions more now than on the way out. The focus here might be encouraging passengers to incorporate conservation into their lives.

Phase 5: Wrap-Up and Follow-Up

Goals

1. To have passengers leave feeling as though their lives have been changed by coming into close contact with whales.
2. To remind passengers that the learning process can continue through their lives.

Passengers' Emotional and Psychological State

Passengers at this point can feel a wide range of emotions. Some who might have been seasick will want to kiss dry land. Some will be thinking about where to get a bite to eat. Hopefully, some will be inspired to begin thinking about their new attitudes and figuring out how to incorporate conservation into their lives.

Approach to Education

During the final phase of the trip, there is only a brief period of contact between educators and the passengers. A final wrap-up, lasting about five to ten minutes is given over the PA right before we dock the boat. Once we are secured at the dock, educators get off the boat, and say good-bye to the passengers. Passengers might receive a whale watch brochure as well as a brochure relating to conservation and what people can do. Finally, passengers get in their cars and leave. We don't know what happens after that. We keep our fingers crossed and hope for the best.
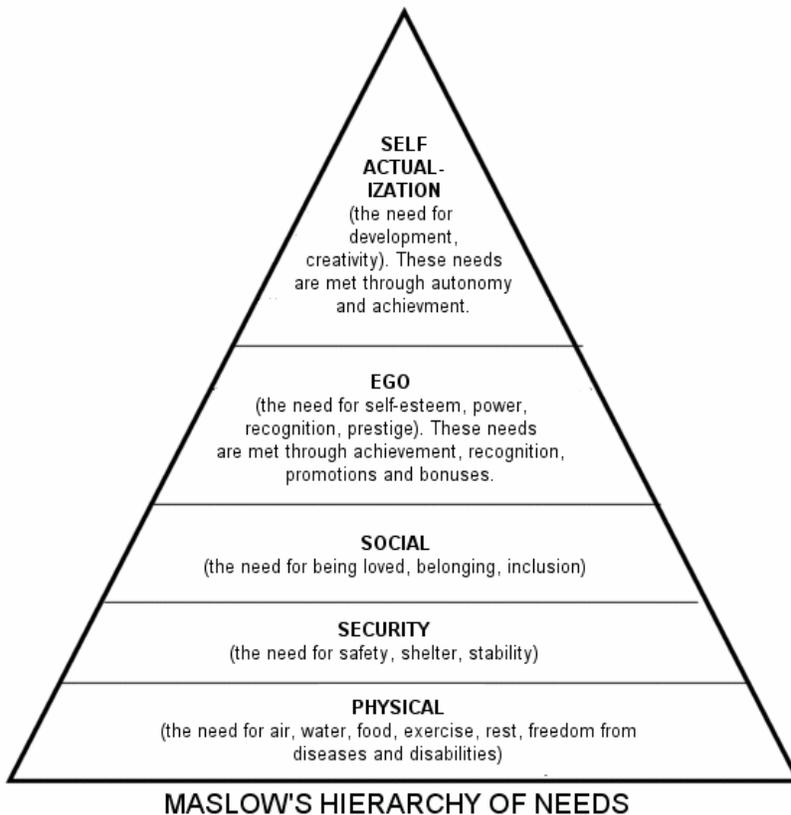
Comments

What Motivates Your Audience?

Why would someone want to attend your program?
Are they captive (so to speak) or can they leave whenever they want?
Do you have their undivided attention or are they moving through the area (land or sea-based whale and dolphin watching?

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Maslow's Hierarchy of Needs

SELF ACTUAL-IZATION
(the need for development, creativity). These needs are met through autonomy and achievment.

EGO
(the need for self-esteem, power, recognition, prestige). These needs are met through achievement, recognition, promotions and bonuses.

SOCIAL
(the need for being loved, belonging, inclusion)

SECURITY
(the need for safety, shelter, stability)

PHYSICAL
(the need for air, water, food, exercise, rest, freedom from diseases and disabilities)

MASLOW'S HIERARCHY OF NEEDS

Maslow's hierarchy of needs is a way of thinking about people's motivation. It is important to consider this in relation to taking passengers whale or dolphin watching. Consider that people need to feel physically safe as well as psychologically safe in order to learn. On days that are very choppy, I always try to make sure people feel safe and know that we are OK and that the boat can handle the seas before thinking about trying to teach them about whales. When moving into the topic of conservation, they need to feel safe in order to even begin a conversation or thinking about how they can help protect marine life.

Presenting Information

<u>Multiple Intelligences</u>

Description of Howard Gardner's Multiple Intelligences

In 1983, Howard Gardner introduced his theory of multiple intelligences in the book *Frames of Mind*, where he describes humans as having seven different intelligences. This contradicts the purist's view of a single general intelligence and the brain as an all-purpose machine. Gardner defines intelligence as "the ability to solve problems or to create products that are valued in one or more cultural settings" (Gardner, 1999, p. 33).

In establishing his theory, he compares each intelligence with such criteria as having the potential of isolation by brain damage, having an evolutionary history, containing an identifiable core operation or set of operations, and being susceptible to encoding in a symbol system (Gardner, 1999). According to Gardner's theory, every one of us has some level of each of these intelligences. Each intelligence is independent of the others, yet they are sometimes used together to solve problems. In total now, he has suggested eight intelligences with discussion of more. The eight intelligences with a brief description of each are on the following page.

## Application of Intelligences to Whale Watching

From trip to trip, we never know who the passengers are going to be until they board the boat. Even at that point, we know very little about them. During the summer of 2001, we did a demographic survey of almost 5000 passengers at Cape Ann Whale Watch. They represented 45 states and 35 countries. The ages and educational levels of passengers spanned the spectrum. A different mix of people are on the boat for every trip. This is where multiple intelligences come into play. When thinking of how to present information, if we keep in mind that passengers represent all the different kinds of intelligences, then information can be presented in ways that are conducive to reaching each passenger in a way that he or she understands best. Each activity or teaching tool I use targets a couple intelligences. I'm sure many will apply to your setting

INTELLIGENCES	DESCRIPTION OF EACH
Linguistic	Involves a sensitivity to spoken or written language.
Logical-Mathematic	Involves math calculations, logical thinking, problem-solving, deductive and inductive reasoning, scientific investigation.
Visual-Spatial	Involves visual discrimination, recognition, projection, mental imagery, spatial reasoning, and image manipulation.
Bodily-Kinesthetic	Involves tactile stimulation, touching and manipulating, and working with concrete, real-life experiences.
Musical	Involves an ability to manipulate and combine pitch, rhythm and timbre to compose, sing, or play instruments.
Interpersonal	Involves an ability to communicate with others, noting moods, temperaments, motivations, and desires.
Intrapersonal	Involves taking the interpersonal and reflecting it inward. Having a strong sense of one's own motivations and determination.
Naturalist	Involves classifying, observing, categorizing, integrating and communicating perceptions of the natural and human-made world.

Presenting Information (cont.)

Multi-Sensory Learning

The brain is an amazing organ. Did you know that different parts of our brains are responsible for responding to our various senses (Christie, 2000)? In light of this, when thinking about how people learn, wouldn't it make sense to try to involve as many parts of the brain as possible? If more parts of the brain were working with the same information, that information would have a greater chance of being understood and remembered. We, as educators, would literally be stimulating more neural pathways in the brain (Christie). This is the concept behind multi-sensory learning. The basic definition is "the process of using as many of the senses as possible when doing exercises and lessons" (Reading with Phonics, 2002). When thinking about presenting information aboard a whale watch, if we consider a variety of senses, perhaps the conservation message will take a firmer hold in the minds of the passengers.
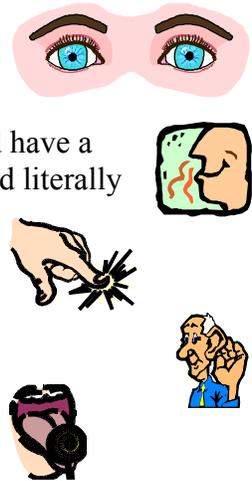
Experiential Education

According to Sexton and Ungerer, experiential education has the following characteristics:
Takes place outside the classroom environment.
Objectives are planned and articulated prior to beginning the experience.
Activities are real and meaningful.
The learner has the help from another person to expand the learning as much as possible. (Sheffield, 1997)

Experiential techniques provide learners "with the opportunity to go beyond conceptual discussions by using concepts in specific real-world contexts" (Hamer, 2000, p. 27). An experiential learning activity is one where learners are asked to take their current knowledge, minimal as it may be, and apply it to real-life situations. They are then required to reflect on that experience, and create new hypotheses that will be applied in the next situation. According to Albert Wight, the assumption here is that we "seldom learn from our experience unless we assess the experience, assigning our own meaning in terms of our own goals, aims, ambitions, and expectations (Centre for Higher Education Development, 2000, para. 12). An example might be a learner taking previous skills of recognizing patterns and applying it to identifying individual humpback whales. After the person matches one tail, an educator can ask the question, "How did you know that was the right match?" The person might reflect for a moment and respond by pointing out a specific mark that he or she looked at. That new concept of looking at a specific mark can then be applied to identifying the next whale. Through experiencing, reflecting, and integrating new knowledge, the learner will have a better grasp on the new material.

Knowing Your Resource

It's very important to "know your stuff" when doing an interpretive talk, but keep in mind that no one can be expected to be an expert on everything. Saying that you don't know an answer to a question is wiser than making something up. It's OK to give an educated guess, but when I do that, I usually back it up with observations I have made or other related knowledge.

Discussion: Biased vs. Un-biased Information

When giving information about conservation issues, how many sides of an issue do you present? Is it important to present various sides? Is it important to suggest solutions?

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Tangibles vs. Intangibles

Intangibles

Death

Family

Home

Tangibles
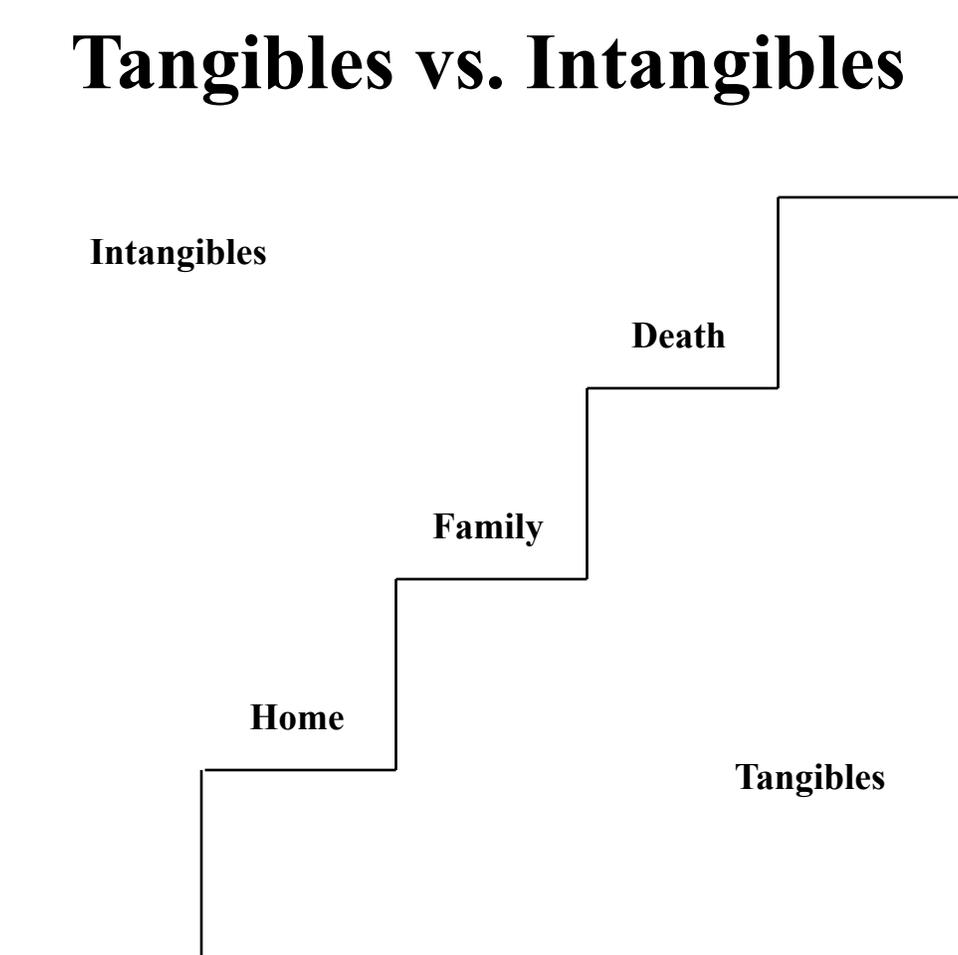
Principles of Interpretation

The fifteen principles of Interpretation are recognized and utilized by the National Park Service and many other interpretive sites around the country. Directly from the book, *Interpretation for the 21st Century*, the fifteen principles are listed below (Beck & Cable, 1998).

1. To spark an interest, interpreters must relate the subject to the lives of visitors.

2. The purpose of interpretation goes beyond providing information to reveal deeper meaning and truth.

3. The interpretive presentation, as a work of art, should be designed as a story that informs, entertains, and enlightens.

4. The purpose of the interpretive story is to inspire and to provoke people to broaden their horizons.

5. Interpretation should present a complete theme or thesis and address the whole person.

6. Interpretation for children, teenagers, and seniors, when these comprise uniform groups, should follow fundamentally different approaches. s within the larger one can have a similar effect.

7. Every place has a history. Interpreters can bring the past alive to make the present more enjoyable and the future more meaningful.

8. High technology can reveal the world in exciting new ways. However, incorporating this technology into the interpretive program must be done with foresight and care.

9. Interpreters must concern themselves with the quantity and quality (selection and accuracy) of information presented. Focused, well-researched interpretation will be more powerful than a longer discourse.

10. Before applying the arts in interpretation, the interpreter must be familiar with basic communication techniques. Quality interpretation depends on the interpreter's knowledge and skills, which should be developed continually.

11. Interpretive writing should address what readers would like to know, with the authority and wisdom and the humility and care that come with it.

12. The overall interpretive program must be capable of attracting support--financial, volunteer, political, administrative--whatever support is needed for the program to flourish.

13. Interpretation should instill in people the ability and the desire to sense the beauty in their surroundings, to provide spiritual uplift, and to encourage resource preservation. Interpretation should uplift people's spirits and invite people to take those positive feelings and put them towards resource preservation. *Instead of presenting a colorless, hopeless picture that might guilt people into being responsible, an interpreter should encourage responsibility by getting to the emotional, inspirational, and motivational level of people. Try not to depress people with the state of the environment. Offer them hope and empower them to make a difference.*

14. Interpreters can promote optimal experiences through intentional and thoughtful program and facility design.

15. Passion is the essential ingredient for powerful and effective interpretation; passion for the resource and for those people who come to be inspired by the same.

Interpretive Approach

What types of information can you share?

Stories, particularly from your experiences (This is my favorite whale because… A few years ago, we observed… I would avoid saying too many things that make people think that their trip is not as good as the other trips the naturalist is describing.)

Unusual Facts (Right whales have the largest testes in the world!!)

Comparisons (Humpback eat the equivalent of 1500 Burger King Whopper's a day!)

Things that get to people's emotions. (Sad, happy, scary, etc) In Massachusetts where many humpbacks have entanglement or ship strike scars, it's particularly emotional to point out scarring on a whale's body. It's a great jump into the issues.

Inspirational quotes (I start out every trip saying Baba Diem's quote, "We conserve what we love, we love what we understand, and we understand what we are taught." I tell passengers that by teaching them about whales, I hope that they understand them a little better. By understanding them, hopefully they will start to care about or love them. When we think about our lives, what we care about and love is what we become motivated to protect and conserve. So, we hope that by observing whales in their natural habitat as well as learning about them, we hope that people move closer to that desire to protect and conserve them.)

What specific information can you add to your talk that people would love to hear about...

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Connect information to your audience

In other words, information should relate to the audience. The cognitive map theory is one explanation of how people process information. It basically says people take information, code it, and store it in their brains. As more information enters, it is coded, and pathways are created between pieces of information. These connected pathways form a cognitive map (Beck & Cable, p.16). By relating information in a way that might already be familiar to passengers, new information can more easily be encoded by individuals in their cognitive maps. If new information can be stored in a preexisting cognitive map, there is a greater chance it will be remembered.

Connect information to your audience

Use this space provided to take notes during the discussion.

Transformative Learning

Theoretical Background for Transformative Learning

Jack Mezirow and others have been studying how adults change for two decades. They refer to the process as transformative learning or perspective transformation. I define transformative learning as an experience resulting in the challenging, evaluating, and reworking of one's values, beliefs, and underlying assumptions leading to new and more open perspectives on life. Transformative learning theory, according to Mezirow, is built upon two assumptions from the constructivist paradigm:

1. "Meaning exists within ourselves rather than in the external forms such as books, and the personal meanings that we attribute to our experience are acquired and validated through human interaction and communication" (Cranton, 1994, p. 25).
2. We individually interpret our experiences in our own way, and our view of the world comes from our perceptions of our experiences (Cranton). These are the underlying values, beliefs, assumptions, or perceptions that are challenged, evaluated, and reworked into our life during transformative learning.

Process of Transformative Learning

Mezirow and Brookfield both present steps of this process (Cranton, 1994; Brookfield, 1987), although Brookfield does not use the term "transformative learning." I've taken their steps and blended the two to create my own brief description of this process:

Triggering event. Transformative learning begins with either a triggering event or a slow combination of occurrences that are harder to pinpoint. These experiences lead to a disorienting dilemma. People find discrepancies in their perception of how the world should be and how the world really is. I found that my transformation took place slowly as a result of multiple exposures to whales.

Self-examination. The result of this is that one identifies and examines his or her assumptions, values, and beliefs. This phase involves much self-scrutiny and introspection. It can be difficult, painful, or anxiety-provoking to examine oneself in this way, and I therefore caution educators to be aware of this. I found that I experienced, guilt, shame, and frustration during my process.

Exploration. By talking with people, reading, or investigating, one starts to explore other ways of approaching the world. I found that I started looking into how I could be a better citizen of the planet--recycling, walking instead of driving, educating.

New Perspective. Once different avenues are explored, a new perspective begins to be formed incorporating what has been learned. I started recycling more, driving less, and really focusing on how to help change people's lives.

Action. These new perspectives and assumptions are then incorporated into one's life in his or her actions and beliefs. This curriculum is very much a part of my transformation.

Need for Critical Reflection

Within their description of transformative learning, both Mezirow and Brookfield point out that critical reflection is extremely important, if not the skeleton of this process. There is a distinction between reflection and critical reflection. Reflection is thinking about problem-solving and beliefs and correcting them if necessary, while critical reflection analyzes those assumptions that the beliefs are based on (Mezirow et al., 1990). Mezirow describes three different types of reflection: content, process, and premise. Brookfield really focuses on how to help people reflect critically.

1. **Content reflection** involves examining content (Cranton, 1994). Questions typically begin with "what": What impact do humans have on the environment? What can be done differently so that we have less impact?

2. **Process reflection** involves "checking on the problem-solving strategies that are being used" (Cranton, p. 49). These are usually "how" questions: How did I come to realize what impact I have on the planet? How did I learn or not learn respect for the environment? When people engage in asking the what and how questions they are engaging in reflection.

3. **Premise reflection** focuses on questioning the issue itself, or problem to be solved (Cranton, p. 50). People should ask themselves or be involved in activities that help them ask "why": Why is it important to think about the impact I have on the environment? When we ask why, we are beginning to uncover our underlying assumptions. Engaging in premise reflection is critical reflection.

Application to Whale Watching

Transformative learning is a long process, and it won't be completed on the whale watch trip. But, we should still encourage it to begin! When trying to connect people to conservation or actions that are conservative in motivation, a long lasting change in people will only occur if it becomes part of the person. Being in the presence of whales can have a powerful impact on people. Strong reactions can come from observing how gentle they are to one another, from watching their sheer power as they jump out of the water, or from listening to how humans are destroying their habitats. Any of these experiences and reactions and many more can become a triggering event for transformative learning. The triggering events can be either negative or positive (Brookfield, 1987).

Through guidance and critical reflection throughout the trip, the educators on board can take these powerful experiences and help people realize why they are greatly moved by whales. Perhaps the reason why becomes their disorienting dilemma. Guiding passengers through the uncovering of their basic assumptions, values, and beliefs can begin to happen at various times during the trip, as you will see throughout the curriculum. The hope is that by encouraging people to really examine themselves, they will be on a path to new discovery and hopefully new perspectives and actions.

Moving Through the Process On the Way to Whales

Setting Conditions for Change

Transformative learning does not occur in four hours, but it can begin during the whale watch trip. This is an important theory when thinking about how to get the message of "conservation" across to passengers. We want people to evaluate how they live their lives and how they interact with the wild world. Throughout the trip it is important to create the following conditions, which will facilitate this process.

Security. Critical reflection is a necessary part of the transformative learning process. In order for people to engage in critical reflection, they must feel secure. The environment must be comfortable, genuine, accepting, and honest (Cranton, 1994). One way to establish this is to make sure that passengers feel as though all of their questions are valid and received with sincerity. Never make fun of questions that passengers ask or make them feel as though they should know the answer. Remember that even though you may have seen hundreds of whales, for many people this is a first time experience.

Questioning. In order to encourage passengers to begin questioning their own assumptions, it is advantageous to create an environment where questioning is the norm. During interactions with passengers, educators can ask many questions. Ask passengers what they know. Ask them what they think of the trip so far. Ask them where they are from. Simply ask questions. If educators ask questions, passengers will feel more comfortable asking questions, whether they are addressed to educators or passengers themselves.

Being in control of learning. The people that come whale watching are usually there for a reason. As I mentioned, 65% of the passengers are personally motivated to come. Because of this, I think many passengers are self-directed and want to engage in different aspects of the trip and the education we offer depending on their individual goals. If interested in a specific topic, passengers will often engage educators by asking questions. By being attentive to passenger questions, educators are facilitating the passengers' learning.

Exposure to new ideas. Transformative learning cannot occur without being exposed to new possibilities. Make sure that throughout the trip, many solutions are offered to problems, and that many viewpoints are expressed. Passengers should feel as though they can "try on" various points of view. They will probably engage in these new ideas where they see fit.

Moving Through the Process While Watching Whales

Regardless of whether someone is a first timer or a repeat customer, watching whales can be a triggering event for transformative learning. It might be just the whales' gracefulness or sheer size, or it might be learning about the impact humans have on the lives of these amazing animals who just graced us with their presence. There are infinite possibilities that together can create a disorienting dilemma, which induces the transformative learning process.

Self-examination is the next phase of this journey. This is the time where people can try to uncover their assumptions, values, and beliefs about the world. This typically does not happen for someone alone! In the situation on the whale watch boat, this process will need encouragement. Again, I want to stress that it can be a painful and difficult process as people realize that assumptions they have held for a long time might now seem wrong, inaccurate, or ill-informed. Often people hold these beliefs so close to their heart that they are unaware of what they are and how those beliefs impact their life. Identifying these beliefs requires critical reflection. A time to encourage this reflection is towards the end of the time spent watching whales. The purpose is for passengers to think about what impact the whales are having on them, and what they are feeling as a result of seeing the whales. In doing so, perhaps people will identify their assumptions, values, and beliefs. I recommend posing a variety of questions over the PA, or individually if that's how you interact with your passengers, and then pausing, allowing passengers time to reflect and think about their own individual responsibility. These questions can either be direct or indirect.

Direct

Because we are interested in assumptions that relate to conservation and how people treat the environment, asking questions related to the environment is a direct way of approaching critical reflection. In this case, the educator might ask questions like these:

What impact do you have on the environment?
How did you realize what impact you have on the environment?
Why is it even important to consider what impact we have?

What does society do that harms the environment?
How have these actions and norms been influenced?
Why are these norms important? Why do we feel we can control nature?

What is the causal relationship between the decline in the health of the environment and human behaviors?
How do you know this?
Why is it important to know the cause-effect behaviors?

This approach might work well for people that are very logical in their approach to topics and issues. But because everyone is different and goes through transformative learning in various ways, it's important to have numerous approaches.

Indirect

In this approach to questioning, we are once again asking questions over the PA, but the focus of the questions is different. Instead of asking people what their assumptions are about how they treat the environment, we can take a back door approach. This time, the focus of the questions might be on the whales and what passengers think of them. Brookfield uses a "critical incident questionnaire" (Brookfield, 1987) when taking people through the process of critical reflection. It is a series of five questions that are asked, then people respond, and discussion ensues. Responses are typically written, but that is obviously not a possibility on the ocean, although I have used these questions as part of a survey filled out by passengers on the way back from the whales. Following is my modification of Brookfield's critical incident questionnaire to be more directed to the whale watch experience:

- At what moment during the trip did you feel most engaged with what was happening?
- At what moment during the trip did you feel most distanced from what was happening?
- What action that anyone took during the trip did you find most affirming and helpful?
- What action that anyone took during the trip did you find most puzzling or confusing?
- What about the trip today surprised you the most? (This could be something about your own reaction to what went on, or something that someone did, or anything else that occurs to you.)

By asking these questions, or ones similar, passengers might come to realize what their assumptions are.

Summary

I recommend using a little of both approaches. I also urge you to mention to passengers that if anyone wants to talk about these questions on the way in, educators are available to listen. It's hard to say that in a way that doesn't sound like we are saying, "Counselors are standing by," but it is a necessary addition to let people know that they are not alone, and that support is available. Depending on personality type, intelligences, and learning styles, people are going to go through this process differently, so making ourselves available as educators to meet individual needs is also important. Some people may not be developmentally able to become involved in the transformative learning process. Others might struggle with what they realize about themselves. Realize that it can be frustrating to not know whether anyone is thinking about and responding to your questions. Keep in mind that not everyone will even attempt to answer these questions, but some people will and you may never know the impact that you have on those passengers. What you <u>can</u> do is ask each question while in the presence of whales, allow time for people to reflect, and hopefully the transformative process will begin.

Moving Through the Process While Returning from Whales

Passengers have experienced their disorienting dilemma and have hopefully begun the self-examination phase of transformative learning at this point. The naturalist has let passengers know that educators will be available to discuss some of the reflection questions should that be desired. The educators need to be on the ball at this point in the trip. This is the time when passengers have time to truly reflect about their experience. And think about the issue of conservation This is also a time that might determine whether people will continue this process after the whale watch.

Even with teaching tools in hand, educators can ask passengers some of the questions that were asked during the final moments watching the whales. Ask the passengers if they would like to share their thoughts with you. Do they want to discuss what surprised them the most? If they do, educators should always have questions in mind that can help passengers explore themselves more deeply to try to uncover those underlying assumptions. Passengers may also have questions for you as an educator and fellow human being. If they ask personal questions, feel free to share your experiences with them as much as you are willing. You can act as a model for them to follow. Whenever possible and comfortable encourage people to talk to you about their beliefs, values, and assumptions. You will find that you probably make personal connections with passengers on the way out. Seek out those people on the ride in from the whales. Because you have already established a connection, they may be more willing to talk to you as opposed to even another educator.
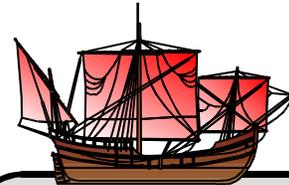
From the Fo'c'sle

In response to the question, "describe an experience that had a significant impact on you," Christine, an intern, wrote, "The reaction of a German lady. She flagged me down to tell me about her trip and how she had been to numerous locations to see whales and this was the first time she had seen them." From another question Christine added, "After [the woman] had seen the whales she wanted to know more about whales. Because she could relate to the animals she was more interested in them." **This is a teachable moment. Be on the lookout for these.** This person wants to talk, and if we, as educators, can listen and ask good questions, the impact of the whale watch trip will be felt by this woman, and hopefully many others, forever because whales have the potential to change lives.

Use this space for comments about the theory of Transformative Learning

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