

Observations on Teaching People with Disabilities About the Natural Environment

By MK Thompson

I have worked with people with disabilities on and off since 1999. In the summer of 2009, I was able to educate many of these people about the wonders of the natural environment. Disabilities included physical and cognitive and ranged from mild to severe. Ages ranged from 5 to 60 with most participants within the range of 15 to 30. This opportunity arose through collaboration with the San Juan Mountains Association (SJMA) and the Adaptive Sports Association (ASA).

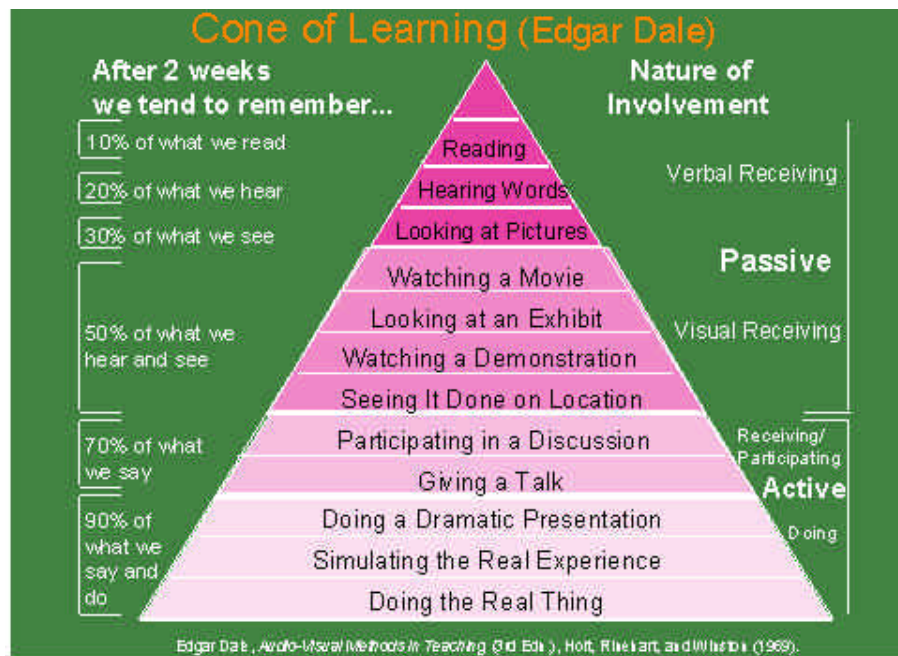
I. Measuring Success

As with any student, the teacher can never be sure just what technique will effectively allow the student to learn. The following gives insight into this dilemma, but offers no concrete solution.

This section focuses mainly on teaching those with cognitive disabilities. These are people whose brains do not process things “normally”. The students that I observed range from people with mild disabilities such as slight learning disabilities or post traumatic stress disorder (PTSD) to people with severe cognitive disabilities such as severe autism.

A. Hands-on Learning and Teachable moments

No matter the student- able minded or with a cognitive disability - there is one way that everyone learns best. This is through hands on interaction. Studies show that the “average” person retains up to 90% of knowledge gained through “doing the real thing” but only 20% of what is told to them (using only their listening skills). Knowledge retention can be improved from the 20% by adding photos, video, charts or other visual aids. See the “Cone of Learning” chart by Edgar Dale.¹



Fortunately it is easy to utilize hands on activities when teaching people about the natural environment and conservation. When outside, there is always something nearby to examine. There are trees, rocks, animal tracks, mountains, insects, flowers and examples of human encroachment (mainly litter). The challenging part of this is getting participants to care.

The most effective form of hands on learning is sometimes called a “teachable moment”. The challenge here is that no one can really plan a teachable moment. Teachable moments simply happen. There are two parts to teachable moments. First, it is about being in the right place at the right time with the right people when something so amazing happens that everyone in the group can’t help but notice. The second part is where the teacher takes that moment and transforms it into a memorable learning experience.

I have found teachable moments to be especially exiting and random when working with groups comprised of people with varying disabilities and people without disabilities. Here are some examples of teachable moments.

I had the pleasure of leading a nature walk with a group of ASA campers. There were teachable moments the whole way. We found a critter hole about the size that a fox would live in. But instead of a fox in the hole, we found a tiger salamander taking refuge! Everyone was intrigued. Nearby we found a midden, a “squirrel kitchen”. This was only interesting to some. The next day however, a boy with severe PTSD walked past a tree with a volunteer and announced, “Look, a squirrel kitchen!” He had remembered what this looked like from the evening before.

On another occasion, I was walking with a group of ASA volunteers and clients to the rafting put-in. A woman with autism saw litter on the ground. She did not hesitate to pick it up and bring it to the nearest trashcan. What a teachable moment. To all involved I asked the rhetorical question, “If you don’t stop to pick up litter, who will?” With the help of the “able minded” people in the group, we were able to convey to all, at least a tiny bit, that the action of picking up litter is beneficial to the environment.

B. Severe Cognitive Disabilities - How do we know?

From the beauty of this teachable moment came tough questions. Even if everyone in the group understood at that moment in time that picking up litter is good, do they remember this? Is there an even better way to get them to remember this? I can't even remember that I have tea brewing for five minutes without a timer buzzing to remind me. I'm not about to start training these people like dogs - they are people - but some sort of positive reinforcement would have to help.

It can be very difficult to know if people with severe cognitive disabilities actually benefit from the information. Generally they are responsive to photos. For example, when shown pictures of a barn swallow and its nest, most will take the photo in hand but quickly give it back or wave it about. With the help of other "able minded" people, we can point out the birds and their nests along the way. My hope is that through constant redundancy, the disabled will begin to form a connection about the existence of these birds or even just the existence of birds in general.

C. Are We Having Fun?

At the end of the day, the bottom line is that people learn better when they are having fun.^{2,3,4} That is part of the reason why hands-on learning works so well: often times it offers a fun experience for those involved. I believe that no research or reference is needed when I claim that people are more likely to remember a fun experience versus a dreadfully boring experience. People with disabilities are no exception to this claim.

D. Conclusion

So how can we really measure success when teaching people with disabilities about the natural environment? Sometimes success will be the obvious result of hands-on learning or a teachable moment. Sometimes the results will be seen right away. Sometimes the results come from continual reinforcement of a concept.

But what if success is not obvious? Ask yourself these questions: Are they smiling? Are they having a good time? Did you take them outside and make a genuine effort to teach them about the natural environment? If the answer is yes to all of these questions, then consider your mission a success.

II. Recommendations for Continuing to Teach People with Disabilities About the Natural Environment

ASA offers many fun activities that already get people with disabilities out in nature. These activities include river rafting, flat water canoeing and camping. My goal this past summer was to add a naturalist aspect to the already slated activities. With the help of the ASA staff and volunteers, the techniques were really quite simple.

"Can you find the ...?"

Most participants responded well when shown a picture of something to look for throughout the day (animals and plants). Then, when we found what we had looked at in the picture, it was very exciting.

Hands-on Activities

These activities included:

- stopping to smell the flowers and trees (especially the Ponderosa Pine)
- touching plants with interesting textures (i.e. Woolly Mullein, pine cones)

Searching for Teachable Moments

With the help of ASA volunteers and staff, we were always on the lookout for wildlife and interesting natural phenomena. This made down time more interesting, especially on long van rides.

References

- 1) Edgar Dale; Audio-Visual Methods in Teaching, 3rd Edition; Holt, Rinehart and Winston
- 2) <http://www.cutecorp.com/drbeans.htm>
- 3) <http://www.percychan.com/blog/pc-edutainment/>
- 4) <http://www.localtutor.co.uk/Tuition/Guitar-London-Tuition.html>