



**To Squish or Not to Squish a Caterpillar – Responding To a Spontaneous Event:
Using PowerPoint Software To Train And Nurture Docents In Interpretive
Techniques**

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After docent training, I still could not imagine what a tour would “look like.” I kept thinking there ought to be a way to connect the facts of nature we learned to the principles of touring we were given. Once I learned of the existence of digital cameras and of the software PowerPoint, I could visualize the solution: create a series of slides with photos of exhibit animals/plants along with suggested dialogue beside each of the photos. As a visual learner, it was a way for me to create a virtual tour that I could actually see.

Our Zoo gives a lot of freedom to the docents to use their individual talents in the education department. In the beginning, I used PowerPoint to review information with my Monday docents and I asked the staff to sit in with the idea that they would embellish upon whatever content I was presenting. We were all pleasantly surprised at how the docents spontaneously started tossing around ideas and brainstorming on tour techniques for that topic. With a click of the mouse, I could bring up the “Speaker’s Notes” box, and – while the docent audience watched – type in the interactive dialogue the docents were suggesting to use with visitors. Each time I gave a presentation and got feedback from the docents, I would include the suggestions for future presentations, which improved with each exposure. I now rate the effectiveness of a presentation by how much discussion it generates. Until experiencing the PowerPoint in action, the staff had not realized it could be used to investigate various interpretive strategies, generate discussion on these strategies, and then – especially valuable – record and store our best ideas. The staff has started using PowerPoint as a result.

Distinguishing Between Monarch and Painted Lady Butterflies

The Living Desert has extensive desert gardens and we docents spend a lot of time noting life outside enclosures. In the spring of 2001, The Living Desert near Palm Springs, CA, was inundated with Painted Ladies. Many of us, including myself, did not know much about butterflies and assumed they were Monarchs. I researched orange butterflies and gave a PowerPoint presentation on the topic. Throughout the showing of these slides, docents made comments, asked questions, and shared experiences. One of our Monday docents has a passion for reptiles and insects and is a *walking encyclopedia* on these topics. My PowerPoint presentation served as a trigger to elicit gems of information from him, enriching our learning experience. The first half of my presentation gave basic background on the 2 butterflies by showing comparative photos (along with explanatory bullet points) of Monarchs and Painted Ladies, as well as photos of the other butterfly *royalty*: Queens and Viceroyes. Monarchs have distinct black veins over orange whereas Painted Ladies are just splotches of orange, black and white, but no distinct veins. One docent remarked on how the Monarch’s orange with black veins reminded her of a Tiffany Lamp – a great practical way of remembering the difference between the two.

I showed a drawing of the proboscis, which is like a coiled straw through which a butterfly drinks a flower’s nectar. If a butterfly has no nose for smelling or mouth for tasting, how can it find a flower or determine if the nectar is good? Our *walking encyclopedia* explained that they use their feet to taste

food and use their antennae to detect fragrance. What are their favorite flowers? For nectar, they like flowers that have an easy landing place – so I chose photos of our local brittle bush and desert marigold. For egg laying, the Monarch is particular, only the milkweed plant will do, a plant known for its toxic qualities. By giving docents a picture, I don't have to worry about those who are too shy to admit that they don't know what a milkweed looks like.

Our zoo recently installed a butterfly garden, which includes permanent, cement-lined puddles. If butterflies only drink the nectar of flowers and no solid food, why are they sometimes found perching en masse on the ground? I used a photo of our puddles to start a conversation about puddling and how minerals are necessary for butterflies. Evaporating puddles are the equivalent of a salt lick for them. I can then remind the docents of the location of our puddles.

A moth usually spins a cocoon, whereas a butterfly caterpillar develops a chrysalis. This distinction was new for many docents. I show a drawing of a chrysalis, and then use video clips from Microsoft Encarta to show the caterpillar shed its skin, revealing the chrysalis. The next video is of the butterfly breaking out of the chrysalis and pumping blood into its wings. This is something that few people ever get to see.

Where do the butterflies go in the winter? Some of our docents have been to Pacific Grove on the central California coast in October and told about the trees that are solid orange from the Monarchs wintering there. I show a map of the migration routes of Monarchs. What a surprise: there are two populations of Monarchs and they appear to never meet. The western population stays west of the Rockies, and the eastern population stays east of the Rockies. The eastern population goes to a mountain near Mexico City for the winter. Another surprise: It takes 4 generations, but the eastern Monarch makes the round trip from Mexico to Canada and back by fall. The limit to their migration depends upon the range of the host plant: the milkweed. It is one thing to hear what migration routes and limiting factors are; it is entirely another thing to see graphically how they truly are.

The Painted Lady has a different story of migration. They go only one-way: northward until the cold weather kills them. An alert docent asked, how is it that the Painted Lady reappears nearly every year in our desert? A lot of the eggs of *permanent residents* hatch and repopulate the desert.

Interpretation and Visitor Dialogues

After I cover the above content, I show slides that encourage the docents to strategize on interpretive techniques by listing some possible dialogues or prompting questions that a docent might use with visitors. This starts the brainstorming for all of us. Prompting questions and a docent's follow-up explanations for an adult visitor might be:

Question: Have you ever had to be on a strictly liquid diet, or have you drunk Slim Fast?

Explanation: Well, butterflies live on a solely liquid diet.

Question: When you see a Monarch, do you ever think about the long distance it has flown?

Explanation: (Texas docents) Have you ever been to Mexico City? On a mountain north of there, is where the Monarchs go for the winter. In the spring, they start north for Texas, following the bloom of the milkweed.

Explanation: (California docents) Have you ever been to Pacific Grove or San Simeon in October? That is where Monarchs congregate and rest till spring.

For kids, a docent might ask:

Question: A butterfly does not have a mouth or a nose; it only has a straw for sucking up nectar. How do you suppose a butterfly carries around a straw without bumping into things or breaking it?

Explanation: Well, have you ever had a birthday party where you had horns that you blew that stretched out and then rolled back up again?

I generate audience participation by posing such questions as: What would you say while standing in front of a caterpillar and a child says, “Let’s squish it!” This is not a hypothetical question because this actually happened to me while on tour.

Oral Quiz – A Playful Review!

At the end of a presentation, I often use the last 4 or 5 slides for multiple choice test questions with the purpose of reinforcing key points for the docents to remember. Of course, docents are not keen on being subjected to the stress of tests after a lifetime of them, so I reassure them that my tests are playful and lighthearted and are designed so that the docents will always get the right answers. Sample test questions:

1. The key to continued reproduction of Monarchs is
 - a. Respect for royalty?
 - b. Supply of host plants: milkweed?
2. Butterflies are very clever in the way they live on a liquid diet:
 - a. That is why they are often called precocious?
 - b. They and their boss carry around a straw called a proboscis.
3. When butterflies gather around standing water, they are
 - a. About to go swimming?
 - b. Enjoying a salt lick?

Conclusion: PowerPoint Is Good For Visual Learners!

PowerPoint has proven to be an especially effective tool for both conveying content and for generating discussions on touring because it forces me to focus, simplify and sequence information. After I have gathered information on an animal or plant from several sources, I must then narrow it down to that which (1) is useful to a docent, (2) fits into a few bullet points on slides with photos and (3) is in a logical sequence. For visual learners, seeing the photos and suggested tour language on slides greatly facilitates a docent’s digestion of new material.

It is important to emphasize one does not have to be a tech-wizard to use PowerPoint, a digital camera, and photo-editing software. However, it is rather time-consuming and often docents have more time to work with PowerPoint than does the staff. I hope this may inspire other docents, as well as staff, to learn and use PowerPoint for the benefit of docents. PowerPoint is a wonderful tool to nurture docents in connecting content and interpretive techniques and would enhance any zoo’s educational department.

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