

A Zoo is a Great Educational Tool

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First I have to tip my hat in apology to aquariums, wildlife parks and educational farms. Since I work in a zoo that's what I can talk about. But the idea of a zoo as an effective educational tool applies equally well to all non-formal educational settings, such as art museums, science museums, nature parks or natural areas. Teachers who have access to any of these should definitely include them in their toolbox.

A zoo's paramount purpose is to promote wildlife conservation. A zoo exists to educate. Research happens, recreation happens, but above all is the intent to educate. The educational potential is at its greatest with a professional educator designing a learning activity to use at the zoo. The zoo is a great tool and it's at its best when a real artisan is using it, a classroom teacher who has designed focused activities connected to a long-term curriculum.

In addition to a zoo being a fun and safe place to learn, there are at least five reasons zoos are effective educational tools for formal learning:

- The animals are real!
- Animals have a universal draw.
- Zoos are the ultimate in interdisciplinarianism.
- The learning is active, outside the confines of four walls.
- Different learning styles can easily be accommodated.

The Animals Are Real!

There is nothing better than an actual elephant to teach the concept of elephantness. What is big? What is a trunk? What is an elephant? That can all be taught instantly by viewing a living, breathing elephant. No video, no Web site, no book can do that as effectively. So, the best thing to do, for teachers interested in teaching about elephants, is to hop on your school's plane and head off to Africa or India. Make sure you don't leave any child behind.

OK, so your travel budget is only \$150 for the year. What's the next best thing? Head to a zoo to get that firsthand connection with the subject you're teaching. Not only do you see real elephants, but you can cover much of the world in your three-hour tour. After elephants, head over to the Arctic for a close look at polar bears. Then cruise through the tropics to study the primates of your choosing. If that still isn't enough, take in the savanna or Cascades.

This exposure to real-world examples has become essential as today's students spend more and more time in front of a screen. You definitely lose A LOT when you take a ten-foot tall, 14,000-pound animal and squeeze it into a twelve-inch glass square. Seeing the actual elephant is far more engaging and

inspiring than the six-inch electronic facsimile, no matter how dense the dots per inch. When kids are watching intently and saying: “Jeez they’re big!” or “That is so cool!,” you know they are fully engaged, and therefore learning in a way that will stick. I’d like to be able to claim that my great lesson plan generated that response, but it was the animal that did it. There is just no competition for the real thing.

A connection with the real thing is even more important for us urbanites, who find ourselves increasingly severed from contact with nature. Zoos offer a safe bridge between the familiar urban setting and the often anxiety-inducing natural world. It’s just a little too real out there in the woods. If the only connection students have with nature is a Lucite box filled with snakes that a Fear Factor contestant is about to climb into, it’s no wonder they’re a little anxious about nature.

Television shows and movies create a challenge for zoos. By cherry-picking brief instances in an animal’s life, these media offer viewers an unnatural representation of animal behavior. Time is compressed, and only the most exciting moments are seen. So the expectation for animals at the zoo is that they’re always pouncing on prey or displaying territorial behaviors. That’s not what happens in nature or a zoo. A zoo is the true reality show where learners can get a look at animals without the over-exaggeration and misrepresentation so often displayed in modern media.

Another problem with TV and movies is the “grass is always greener” effect. Exotic animals from other parts of the world always seem to be the big feature. Students can tell you about a Thompson’s gazelle or cheetah but know very little, if anything, about their local indigenous deer or cougar (mountain lion, puma, catamount, panther, whatever you call ‘em in your area). Zoos today are featuring more local animals, recognizing that the critters right here at home are just as amazing as their counterparts on the other side of the planet. This also helps build the understanding that conservation efforts are needed, and are happening, right here. It’s not just the rainforests of Brazil that are in trouble.

The real animals can be a connection to the real world and inspire students to want to learn more. The unhidden agenda of zoos is for people to make that connection with animals and ultimately take better care of this planet we share. You can see this in the Oregon Zoo’s mission statement: To inspire our community to create a better future for wildlife. We hope inspiration hits all of our visitors, but especially students who participate in a purposefully designed learning activity while at the zoo. Zoos employ real live animals as ambassadors for all wildlife. It works!

Animals Have a Universal Draw for People

Animals in general are attractive to many people, particularly children. More than a million people visit the Oregon Zoo each year. Why do they come? Good weather helps. There are corn dogs available. It is a fun place to spend some time. Certainly those basic Maslovian needs have to be met. But that is all secondary to the opportunity to see some animals. People love watching animals. Animals grab

the attention of most people. That is no small attribute in the current world of hyper-stimulation from TV, movies and computers.

There is some great educational television programming. Many wildlife magazines, plus an endless supply of Web sites (of variable quality and accuracy), have presented a huge volume of animal information to the general public. Like zoos, these venues are responding to that universal interest in animals. Seeing great videos or spectacular photographs increases the interest and enthusiasm people have for animals. This has raised the bar for zoo education programs and signs at the exhibits. People know more and are more sophisticated about their interest in animals. Visitors want to know life spans, reproduction rates, endangered status and particular behaviors or adaptations. Still, it's the zoo they come to for a firsthand, direct look at the actual animal.

Animals are pervasive in children's lives. But, these animals are most often images created by marketers for toy companies, by cartoonists who take great artistic license with nature, and by book illustrators who can be anthropomorphic to the extreme. Children interact with pets at home or school — select few marketable species that can be found in a pet store. None of these give students a glimpse of the magnificent biodiversity that inhabits this planet. A trip to the zoo can expand the children's knowledge to encompass the whole world, from the tiny 1-inch poison dart frog with brilliant blue skin to the 18-foot giraffe who has a long purple tongue. This spectacular array of species can capitalize on the universal appeal of animals and be a catalyst to learn more.

The Ultimate in Interdisciplinarianism

Animals can be the foundation of study for all academic areas, the hook that maintains enthusiasm for learning. Animals, nature, ecology, biodiversity and adaptations are all great topics to cover at the zoo. Classification keys using identification characteristics are another great learning tool, whether you're determining the differences among mammals, fish, reptiles and insects, or getting more specific with mammals by differentiating pinnipeds from ungulates.

Zoo visits can focus on animal behaviors. There's tremendous opportunity for inquiry science here. Students could do some observations, pose some questions and test their hypothesis, all within a zoo visit. Watching the gibbons, students could observe that some spend more time close together than others, then hypothesize that the largest spends the most time by itself. (Of course, the students would have to define "close" and "together.") Finally, they could establish some measurement parameters, observe the animals and determine if their hypothesis is true.

Observations can be made at the zoo, and a huge amount of data can be collected in a short period. The data can then be taken back to the classroom to be charted, graphed and interpreted. The

interpretation can be reported in writing and orally, with illustrations to expand key concepts. Science, math, language arts and visual arts, all in one.

Geography can be covered using animals as representatives of different regions of the world. Most zoos are changing the exhibits to zoogeographic regions. At the Oregon Zoo we have an African Savanna, African Rainforest, Alaskan Tundra, the Amazon Flooded Forest, the Great Northwest and a Family Farm. Studies about places in the world could be followed by a trip to the zoo to see real-world examples of the animals and habitats that occur in that region.

Strengthen math skills by counting, calculating or charting all the animals in one exhibit (or how many different kinds are exhibited), or by comparing different exhibits to look for patterns. At a higher level, students could determine a ratio between the size of an animal and the size of its exhibit to estimate the space required for each animal. That could be compared with mammals, reptiles and birds to see if there are any correlations that could be made. These estimates could then be used to design a whole new exhibit or zoo.

Writing activities can be greatly enhanced by the students' attraction to the animals and the inspiration they can give. Students could write about the day in the life of an animal in its natural habitats as it moves around the exhibit. I've seen many examples of creative poetry come from students' observations of animals.

Of course, painting and drawing is always superior with a live model. And let's not forget photography and videography. There are ample subjects for all media. The great diversity of forms in animals provides endless opportunities to study color, shape, texture and design. Digital photography has made this medium far easier and more immediate. Students can generate professional-quality documents shortly after the zoo visit.

An additional advantage to being at the zoo is the diversity of people who visit. Because of the universal appeal of animals, zoos typically draw a broader spectrum of society than art museums, historic sites or science centers. People of all ages, social backgrounds and cultures visit zoos. And, since zoos are typically major tourist attractions, there are visitors from around the world speaking every language. So a zoo visit can give students a peek at people and cultures from around the world.

The Learning is Active and Engaging Outside the Confines of Four Walls

Teachers who prefer to lecture need not apply. You won't have a chance at a zoo. Just try lecturing to a group of sixth graders when the howler monkeys are howling or the lemurs are racing around the tree from limb to limb. The animals will always win and completely take over the students' attention.

So, learning at a zoo has to be entirely active. First of all you're covering a lot of ground with a lot of walking. That should take care of your PE requirement for the week!

Because you're outside, away from the school building and its minute-to-minute schedule, students are energized to explore and discover the new and exciting things to find at the zoo.

There is ample opportunity to read, write, discuss, or be engaged in solving problems. You can easily get students actively involved in higher-order thinking tasks like analysis, synthesis, and evaluation just by asking a few questions: Why does this animal have a trunk? Why is an elephant so big? And for older students: Should we try to protect elephants from extinction? Why? Involving students in doing things and thinking about what they are doing is easy with all the animals to inspire ideas and conversation.

Students will enjoy the zoo visit more with any kind of focused, guided activity. The huge area to cover and vast array of so many different animals quickly overwhelms visitors. Some structure or guidance will help them grasp it all and relieve the anxiety of having to take in the whole world. Structure also puts it all in perspective and helps ease the concern for not wanting to miss anything. Cooperative learning and team building also work very well with a zoo visit. You can assign activities to groups of students who cooperate to complete a task.

Different Learning Styles Can Easily Be Accommodated

Accommodating all learning styles at a zoo is easily done. Auditory, kinesthetic, visual and tactile learners all have ample opportunities to explore and learn in their best mode.

Auditory learners will love the keeper talks, where the keeper will spend a few minutes talking about the animals in his or her care. Teachers and fellow students can also be sources of information for each other: Before your visit, have each student research the animal of their choosing that can be found at the zoo. When you get to the zoo, have each student become the tour guide when you get to the animal they've researched. In the non-formal education parlance this is "each one teach one." Or they could work in teams, each team designing a tour for a particular section of the zoo. Most zoos have a Web site where you can quickly find which animals are exhibited, along with information for each animal.

There are interactive elements in many of the exhibits. These are great for kinesthetic learners. You can do even more to get these active physical learners engaged. Have everyone measure out a tiger's leap in paces. Then have one student be the tiger. The other students back away until they think they are farther than the tiger can jump. Compare your steps to the steps of a giraffe. How many student steps match a giraffe's stride? Stretch out your arms against the life-size picture of the condor. How many kids does it take to match its wingspan?

Visual learners will be focused on the animals or illustrations on the exhibit signs. They'll be the ones who actually read the whole sign. Spread your visual learners around in your groups. If you're assigning a task which requires reading the signs, the visual learners are the ones who read them and help the whole group succeed. Visual learners will find the information you've sent the group looking for. You also want to make sure you have a visual learner in each group because they are best at figuring out maps. Other great tasks for visual learners are taking pictures or drawing sketches in a journal. With digital photography it's become very easy to generate an illustrated report. Take pictures of the animals and the illustrations on signs. Then paste them into a report to be shared back in the classroom.

Most people really like touching stuff, and unlike typical museums, zoos encourage touching. These are powerful moments for the tactile learners. They'll be in heaven at the family farm, where they get to be in the pen with the goats and sheep, or feeding the lorries some nectar. There are also horns to feel, simulated elephant tusks and even an elephant jaw bone accessible for touching. These are all typical tactile experiences at zoos. Sometimes you'll even run across a zoo volunteer who has something to touch: a pelt and skull of a sea otter, the feathers of a penguin or the shed skin of a snake.

Different behavioral styles can be met too. For the students who are motivated to get out and explore the world, taking in a huge amount of stimuli all at once, the zoo is a great place. For the kids that need to get up and move around, the zoo is great. The bored kid may become fully engaged. You may see students shine at the zoo who normally struggle in the classroom.

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