



SCHOLARSHIP SUPPORTING VIRRY

Notes for Teachers and Parents

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- 1) This app builds on children's innate fascination with animals (Melson, 2001). According to the biophilia hypothesis (Kellert, 2005; Wilson, 1984), humans have evolved with other life forms resulting in human attentiveness to living beings, especially animals. Research suggests that some of the earliest words that a very young child learns are the names for animals. A researcher, Gene Myers, spent a year in a preschool classroom closely observing young children as they encountered a variety of "visiting" and "resident" animals. He found many examples of these biophilia, documenting how children were drawn to these animals and in their fascination, were learning about the characteristics and needs of other species (Myers, 2007).
- 2) The concept of biophilia, as well as research documenting children's fascination with animals, suggest that children will find an app about wild animals appealing and fun, regardless of the other benefits the app might provide. Most apps show cartoon animals and not real wild animals. Most media, such as children's books, videos, and websites, focus on pets and domesticated or farm animals. Wild animals, defined as those animals who are not pets or domesticated farm animals, may live in the wild, in their natural habitat, or be found in zoos, nature parks, or aquariums. The vividness, accuracy, and immediacy of these striking images bring wild animals closer to the child. Since educational research shows (DeCorte, 2011) that children learn best when they are motivated and intrinsically interested in a subject, learning through engagement with animals is a natural.
- 3) In addition, the type of learning matters. When children can be self-directed and interactive, they learn more. For young children particularly, learning occurs through play and through engaging in a non-directive, non-didactic way. This has been called variously "discovery learning," "experiential learning," (PalMBERG, & Kuru, 2000) and "free-choice learning" (Falk, & Dierking, 2002). Whatever the terms, they all mean that when children engage and experience, they learn. According to guidelines for "best practises" in early childhood education (www.naeyc.org), learning should be interactive, active, constructive and play-based. In an extensive review of educational studies, DeCorte (2011) showed that competence in many areas, including reading and math, is best achieved when chil-

dren are positively engaged, active, and collaborating in exploring material that is highly relevant to them. We have incorporated the key elements that DeCorte (2011) documents in this app: (a) using strategies to solve problems; (b) breaking down problems into parts; (c) getting feedback on progress and using it to try again; (c) maintaining attention, motivation and positive engagement in the task. In early childhood, engagement involves sensory learning—seeing, hearing, feeling, kinesthetic feedback (Sally, 2014). This app builds in multi-sensory stimulation. Children see real live wild animals, such as tigers, hear them make sounds, feel movements in their fingers (as the app makes their ipad move). In early childhood, experiential learning also means what children use their bodies not just their minds to learn. This app builds in actions, like “feeding” and giving a tiger a drink by tipping or shaking the ipad. Finally, the app is constructed as a playful, interactive game experience. In this way, it is an example of the “playful learning” that is the optimal pedagogical structure for early childhood (Hirsh-Patek, et al, 2009).

- 4) In early childhood, the development of empathy and perspective-taking is key to good social relationships with other children and adults, as well as school-related learning. Empathy refers to the ability to experience the feelings of another, while perspective-taking is broader, including the ability to perceive the world from the vantage point of another. Engaging with animals, wild and domestic, can be a tool to develop empathy and perspective-taking, since an animal's needs are clearly different from that of the child. Research shows that children as young as three years of age have a solid grasp of what animals need (Myers, Saunders, & Garrett, 2004). In this app, interactive games specifically target the development of perspective-taking and empathy.
- 5) Our children are the future stewards of our planet. They will be in charge of protecting wild animals and their habitats. Research (Berenguer, 2010) shows that when empathy toward wild animals is encouraged, people develop a heightened sense of the need for environmental protection. Although this research tested adults, not children, it suggests that starting to build empathy toward wild animals early, may pay off throughout adulthood.

References:

- Berenguer, J. (2010). The effect of empathy in environmental moral reasoning. *Environment and Behavior* 42, 110–134.
- DeCorte, E. (2011). Constructivist, self-regulated, situated, and collaborative learning: An approach for the acquisition of adaptive competence. *Journal of Education* 142, 33–47.
- Falk, J., & Dierking, L. (2002). *Lessons without limits: How free choice learning is transforming education*. NY: Altamira Press.
- Hirsh-Patek, K. Golinkoff, R. M., Berk, L. E., and Singer, D. G. (2009). *A mandate for playful learning in preschool: Presenting the evidence*. Oxford: Oxford University Press.
- Kellert, S. R. (2005). *Building for life: Designing and understanding the human-nature connection*. Washington, D.C.: Island Press.
- Melson, G. F. (2001). *Why the wild things are: Animals in the lives of children*. Cambridge, MA: Harvard University Press.
- Myers, G. O. (2007). *The significance of children and animals: Social development and our connections to other species*. 2nd edition. West Lafayette, IN: Purdue University Press.
- Myers, G. O., Saunders, C., & Garrett, E. (2004). What do children think animals need? Developmental trends. *Environmental Education Research* 10, 545–562.

Palmberg, I. E., & Kuru, J. (2000). Outdoor activities as a basis for environmental responsibility. *Journal of Environmental Education* 31, 32–36.

Sally, P. B. (2014). *Connecting animals and children in early childhood*. St. Paul, MN: Redleaf Press.

Wilson, Edward O. (1984). *Biophilia*. Cambridge, MA: Harvard University Press.

VIRRY app may be enriched by including other activities and materials as part of the child's experience. Here are some helpful resources:

Websites:

www.allianceforchildhood.org (for resources related to play with young children);

www.rootsandshoots.org (Jane Goodall's program for environmental education);

www.naeyc.org (The National Association for the Education of Young Children, the major professional association for early childhood educators).

Books for parents and teachers:

Crain, William (2014). *The emotional lives of animals and children*. San Francisco, CA: Turning Stone Press. Recounts the experiences of a child psychologist who establishes a farm sanctuary for animals and in doing so, shows the emotional connections between rescued animals and children.

Melson, Gail F. (2001). *Why the wild things are: Animals in the lives of children*. Cambridge, MA: Harvard University Press. Presents the theory and science behind the importance of animals for children's development from birth through adolescence.

Selly, Patty Born (2014). *Connecting animals and children in early childhood*. St. Paul, MN: Redleaf Press. Lots of examples of activities for young children in and out of the classroom to enhance the animal connection.

Children's books and educational DVDs:

MEERKATS National Geographic Readers: *Meerkats*, by Laura Marsh.

GIRAFFES *A Giraffe Book for Kids* by Maura Kempa.

LIONS Lions Picture Book for Kids: Fun Facts and Pictures about Lions by Torben Hansen.

RHINOS *Rhino: Amazing Photos and Fun Facts Book about Rhinos for Kids* by Caroline Novsk.

National Geographic Kids Animal Jam. An educational video game that teaches facts about animals.

Activities for children:

Adaptable for small groups of children (classroom) or for an adult with one or two children (parent and child), including but not limited to: arts projects, pretend play (dress up like a tiger), building projects (blocks, legos), outdoor play activities (treasure hunt for [pretend] tiger food); animal figures (see Learning Resources Jumbo Jungle Animals); live animals, such as lizards, hedgehogs, rabbits, guinea pigs, hamsters, birds—often kept in homes as pets, but also as resident or “visiting” pets in preschool classrooms.

These activities promote multiple skills important in early childhood education. For example, setting up a pretend jungle, with children dressing up as animals, can build empathy, promote creativity, enhance curiosity, and further connect children to wild animals and their habitats.