



*From thinking children come thinking adults*

## **BRAIN RESEARCH: A SCIENTIFIC UNDERSTANDING OF THE TEACHING-STORY**

***"A form of literature little-known in the West but common in Afghanistan can help develop thinking skills and perceptions"***  
**says neuropsychiatric expert Robert Ornstein**

from a lecture at Library of Congress on  
"Teaching-Stories and the Brain"

**I**n a recent lecture at the Library of Congress, psychologist Robert Ornstein, a pioneer in studying the brain's two hemispheres, said that researchers have found that reading Teaching-Stories activates the right side of the brain much more than does reading informational text. Ornstein, considered one of the world's foremost experts on the brain and who has taught at Stanford, Harvard and University of California at San Francisco, says, "The right side of the brain provides 'context,' the essential function of putting together the different components of experience. The left side provides the 'text,' or the pieces themselves. Familiarity with these stories can expand context: enabling us to understand more about our world and our place in it."<sup>1</sup>

Ornstein sees these stories as key to our basic cognitive development, leading the child and then the adult to learn more about what happens in the world and when and how events come together. "It's as if we had the unassembled parts of a bicycle and knew, through analogy (the shapes perhaps), that there was a relationship between the handles and our hands, the pedals and our feet, and so on. We may even have an idea that these are a necessary part of what is known as 'a bike' and of 'riding a bike.' But to actually assemble the bike correctly, then to be able to ride it, when and where to ride it, etc., that requires contextual thinking: seeing each disparate part as part of a whole. That 'whole,' of course, expands with experience and understanding. A comprehensive study of Teaching-Stories provides what is, for all intents and purposes, a limitless whole."

He points out that Teaching-Stories exist in all cultures and that an analysis of the stories throughout the world shows that the same stories occur time and again in different cultures. "It is the 'Disneyfication' of such stories – the selection and retelling of only those elements within the original that have a strong emotional appeal – that has led to the temporary demise in Western culture of the Teaching-Story as a developmental instrument."

"Teaching-Stories have been part of all cultures from time immemorial," says Ornstein, "but only recently, thanks to the work of the Afghan author Idries Shah, who collected hundreds of these, have they been available for study by Western scholars and their psychological significance appreciated."

The Teaching-Story is an educational tool that can help students develop analogical and contextual thinking skills and dialogic inquiry. These higher-level skills will be useful throughout their lives.

<sup>1</sup>Robert Ornstein, "Teaching-Stories and the Brain," Library of Congress lecture, 2002.

Not only do these stories enrich contextual and intuitive thinking, they also enhance analogical thought. “The right hemisphere is best at recognizing the relationships between entities, which is at the core of analogy.”<sup>2</sup>

Readers and listeners are encouraged to extrapolate from the events and characters in these stories to those in their own lives. Developing analogical thought in our students helps them develop flexible, inventive minds that are able to meet the challenges of life in and out of school.

Holyoak and Thagard in their book *Mental Leaps*<sup>3</sup> give an example of a child’s ability to think analogically. Neil is a four-year-old who is pondering the deep issue of what a bird might use for a chair. He initially decides that the tree branch might be the bird’s chair and his mother praises him for his answer, adding that the bird could sit on its nest as well, which is also its house. Several minutes later (and time is an important factor in this process), Neil has second thoughts and says that the tree is not the bird’s chair, it is its backyard. Neil here makes a mental leap. He is now trying to understand the entire world of the unfamiliar in terms of his own familiar world. He is thinking analogically.

The child's everyday world is his only reference, a known world that he or she already understands in terms of familiar patterns. In this example, Neil knows people sit on chairs and houses open onto backyards. The bird's world is a relatively unfamiliar one that Neil is trying to understand through his own familiar one.

Holyoak and Thagard conclude that young children without any formal training have a natural capacity to reason by analogy. We need to help them expand upon this natural ability.

It is now known that children are able to make simple analogies as early as the age of two, something that we observe when a child plays with her doll as if she were the mother and the doll her baby.

This is analogical thought, using the structure of the known to identify with and act “as if,” in this case, the child were a mother. This is a new experience for the child, one that enables her to understand, integrate and empathize with her mother, mothers and caregivers in general, mothers of any nationality or even species, and so on – the “context” of such situations, in Ornstein’s language.

Learning requires the brain to construct meaning, i.e., to make connections between the new information and an experience that is already known to the learner. The brain naturally constructs meaning when it perceives relationships,<sup>4</sup> and those relevant or meaningful connections motivate the brain to be engaged and focused.

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<sup>2</sup>Ibid.

<sup>3</sup>Keith J. Holyoak, Paul Thagard, *Mental Leaps: Analogy in Creative Thought*, MIT Press, 1996.

<sup>4</sup>Renate N. Caine, Geoffrey Caine, *Making Connections: Teaching and the Human Brain*, Rev. Ed., Dale Seymour Pubs., 1994.

Constructing meaning is the major requisite to learning and the core of intellectual processing.<sup>5</sup> When children make analogies, they are constructing meaning by relating something that is both emotionally and intellectually familiar to them with the new information. This is a very powerful way to learn.

Analogical thought provides a vital mechanism for understanding ourselves and our world, our origins and our destiny. Analogy is used in building scientific theory and in writing poetry. It is used in myths and legends. Coming to an analogical insight – an “Ah-Ha!” moment – is a fulfilling experience; it feels good no matter how young or old we are!

It is this innate ability that we encourage and build on when we use the Teaching-Story. One can say, in Holyoak and Thagard’s terms, that Teaching-Stories, and there are many hundreds of them published for people of all ages, provide the richest “source analogs” available to us for the development of our own and our children’s potential. As you are using these tales with your children, you too may come to new, more sophisticated insights.

By allowing students to juxtapose situations, characters and events that occur in Teaching-Stories with those that occur in their own lives, we enhance their ability to understand, through analogy, aspects of their lives that may otherwise perplex or confuse them. When children start to think in this way with these stories, they begin to experience social and emotional growth.

This will continue throughout life: that is, if we spend enough time with these tales to become familiar with them so that we not only remember them but can keep a place for them in our minds, we will experience dimensions of meaning that increase as our experiences increase, gaining additional deeper analogical insights from each tale.

As Ornstein says, the Teaching-Stories are highly contextual. That is they contain dimensions of meaning that each of us can use when situations that are structurally similar arise in our everyday experiences. Having this rich contextual source available at a time when it is relevant encourages greater understanding, real insights, and flexible thought, all of which lead to more options and so the possibility of more productive action.

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<sup>5</sup>Yvette Jackson, PhD, National Urban Alliance for Effective Education, "Reversing Underachievement in Urban Students: Pedagogy of Confidence" in Costa, A., *Developing Minds: A Resource Book for Teaching Thinking*, ASCD, 2001.