

Chimpanzees and Language

From "It's All Greek to Me," a Lesson Plan from Next of Kin - A Compassionate, Interdisciplinary Science Curriculum

Chimpanzees are 98.76% genetically identical to us. With this genetic closeness comes similarities and differences. One difference is that chimpanzees are not able to speak vocally. Attempts were made to teach chimpanzees a spoken language; which were largely unsuccessful. One example of a study that had limited success is one that involved a chimpanzee named Vicki. She was raised by human psychologists Keith and Cathy Hayes in the 1950s. She acquired a limited vocal vocabulary of four words: mama, papa, cup, and up. These words were hard to understand with her heavy chimpanzee accent and were largely voiceless. It has also been found that chimpanzees have a relatively thin tongue and a higher larynx; these physical attributes make vowel pronunciation difficult.

Many chimpanzee vocalizations are emotional. Just as a human would respond when someone steps on their toe, so too do chimpanzees. When a person steps on your toe, you don't think to yourself "hmm, my toe is being stepped on. That hurts. I should yell," it's much more automatic than that: you yell! Chimpanzee and human involuntary vocalizations are controlled by the limbic system in the brain. Chimpanzees may food bark when they see food they really like or alarm call when they are scared.

Another reason that it is unlikely for a chimpanzee to learn a vocal language is that chimpanzees tend to be very quiet. Many people have reported passing a tree in the jungle and later realizing that it was filled with chimpanzees silently grooming or eating!

In the 1920s Robert Yerkes (a pioneer of chimpanzee behavioral research) recognized that, though chimpanzees could understand what he said, they never imitated his sounds. He found that they would reproduce the actions that they saw, but not what they heard from humans. Researchers of free-living chimpanzees have also found that chimpanzees communicate often with gestures. When requesting to groom, they may raise an arm over head. Mothers may make a scooping gesture with their arm behind their back when it is time for their baby to climb on their back to leave.

With these and other observations, the use of sign language seemed to compliment the nature of chimpanzees. The chimpanzees have acquired many signs, they have even made signs of their own to communicate with their human companions. Chimpanzees who communicate through sign language have also creatively combined signs to identify things, for example: BIRD-MEAT (turkey), NUT-BERRY-PAPER (fruit leather), WATER-BIRD (swan), and CRY-HURT-FOOD (radish).

Just like there are different accents in the United States (depending on where you live) there are also accents among chimpanzees. Not only do chimpanzees and humans have different accents, but also different words can be used for the same thing. Humans from different areas of the United States understand that "soda," "pop," and "coke" mean the same thing. Chimpanzees have different accents as well as different uses of words. Chimpanzees sign BIRD in the inverted form

(fingers pinching lips) much like young children. Washoe signs FRUIT for apple (more generic). The ASL sign CHASE does not make contact, however, the chimpanzees have turned it into a contact sign by hitting the fist on the wrist.