Procedures

The sample was a wild-caught female chimpanzee named Washoe, approximately 8 months old, and she was placed in a single participant laboratory experiment. The independent variable was exposure to American Sign Language (ASL), and the dependant variable was Washoe’s use of ASL. The first few months of research were spent building a trusting relationship between Washoe (the chimpanzee) and the researchers.

From the start Gardner and Gardner needed to ensure that Washoe could not only ask for objects, she also needed to be able to answer questions, i.e. they wanted her to make a ‘conversation’. Her human companions were to be friends and they introduced games and various activities that would be likely to get maximum interaction from Washoe. All companions were required to master ASL, the language Washoe would be learning, and the environment needed to be like the home of a deaf child living with deaf parents, i.e. only ASL would be used; no verbal communication as this may confuse Washoe.

Sign language consists of manual gestures which can be either iconic or arbitrary. Iconic signs are actions which relate to the objects they represent, for example ‘flower’ can be symbolized by making the shape of a flower with your hand and making it appear as if you are smelling it. An arbitrary sign doesn’t have an obvious connection with the object it represents e.g. ‘always’ is made by holding the hand in the fist, index finger extended whilst rotating the arm at the elbow.

Training methods were used to teach Washoe sign language, these included:

Imitation: The ‘do this’ game in which the trainer says ‘do this’ and then the chimpanzee is meant to imitate the specified act for the reward of being tickled.

Babbling: Practising the elements of sign language to form the correct gesture i.e. when a baby says ‘mama’ the mother says ‘mummy’.

Operant conditioning: Using rewards to increase the likelihood that a behaviour would be repeated – tickling was most effective with Washoe.

It was easier earlier on in the experiment to keep records of Washoe’s signing behaviour, but as she learned more signs it got harder to record. A new procedure was required for accurate records. Three observers were used to note that Washoe had used a sign in context and spontaneously, and it was then added to a checklist. If used for 15 consecutive days, it was noted as being learnt.