

Learning from Chimpanzees: Internships at the Chimpanzee & Human Communication Institute

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The Chimpanzee and Human Communication Institute (CHCI) provides a unique opportunity for research and education about human's sibling species, chimpanzees. Additionally CHCI provides sanctuary for three chimpanzees-- Loulis, Tatu, and Dar. CHCI's primary goal is to ensure the well-being and protection of these chimpanzees by guaranteeing their freedom from invasive or disruptive research, by maintaining a safe, healthy, and interesting environment, and respecting and providing for their individual needs. CHCI's second goal is to encourage in other humans respect, responsibility, and compassion for all of our fellow apes by offering unique, engaging educational programs and resources to elementary, secondary, and post-secondary students and the public at large. CHCI's third goal is to promote quality, humane research on the communication and behavior of the chimpanzees in our care, as well as research that furthers both the care of captive chimpanzees and conservation efforts to save chimpanzees from extinction by serving as a resource for the students of Central Washington University (CWU), its faculty, and visiting scientists. In fulfilling this mission, CHCI provides unique research opportunities for undergraduate students.

CHCI is situated on the CWU campus in Ellensburg, WA, which facilitates student involvement. Student interns learn research skills in a hands-on approach. New interns learn the basics to begin chimpanzee research and husbandry. They learn to identify individual chimpanzees, a behavioral taxonomy, a system of abbreviations, and observational skills. They learn basic husbandry including appropriate cleaning, meal preparation, and recordkeeping. CHCI's philosophy of care is one where research and care blend seamlessly. This is necessary for research that examines the interactions between caregivers and the chimpanzees. Much of the research at CHCI involves analysis of signed conversations between the chimpanzees and their caregivers. If the caregiver is not a friend of the

chimpanzees, this could hinder conversations and data collection. This is true of any research where the chimpanzees are willing participants in the research. All of the research at CHCI is observational and the chimpanzees are never forced or coerced into participation. Thus the challenge to the researcher is to create an experimental paradigm that is interesting and naturalistic. Simple observations also require affinitive relationships between chimpanzees and observers so the chimpanzees engage in natural behaviors rather than constant reactions to observers. Thus by virtue of our philosophy, students are involved in both care and research. Interns may choose to pursue further training and experience in husbandry and research. This involves taking a course in American Sign Language and completing a sign reliability test at 85% or above. This establishes inter-observer reliability in written records of chimpanzee signs. Interns learn many research skills in an applied setting.

Most student interns major in the Primate Behavior & Ecology program, which includes a second major in biology, anthropology, or psychology. A few other students have other majors such business or criminal justice. At CHCI undergraduates have the same opportunities as graduate students.

An avenue for non-CWU student internship at CHCI is the annual Summer Apprentice Program. This is a 10-week intensive research and husbandry experience. Applicants learn about the program and download the application from www.cwu.edu/~cwuchci. Qualified applicants demonstrate a desire to participate in research and to gain experience in an environment that puts the chimpanzees' needs first and must have one year at a college or university. Some individuals apply while working toward a degree while other are post-degree or in graduate school and applicants from all majors and nationalities are welcomed.

Types of Data Collection at CHCI

Written Databases

Chimpanzee caregivers have maintained a variety of written records of the chimpanzees' behaviors and care. These provide written databases that can be utilized for future study.

In the first 14 years of the CWU project all interns recorded a **Shift Report** at the end of their shifts. These are written records of interns' shifts including notes on the chimpanzees' behaviors, signing, and interactions. These reports provide opportunity for research in chimpanzee behavior and communication, including longitudinal research.

Recently an undergraduate intern utilized this database for a science honors thesis, which coded instances laughter, play, and humor. Numerous undergraduate interns assisted in the coding and data entry process. This project resulted in three presentations (Wallin, Jensvold, & Sheeran, 2006; Wallin, 2007; Wallin, Jensvold, & Sheeran, 2007). In another study early records were analyzed to document phrase development as Loulis acquired signs from other chimpanzees (Fouts, Jensvold, & Fouts, 2002; Jensvold, Fouts, Hood, Fouts, & Waters, 1999).

A later version of the Shift Report is the **Berm Log**. When the chimpanzees are in the outdoor enclosure, interns observe the chimpanzees and make written records of their behaviors. This database was utilized for a study that showed a positive correlation between the temperature and the time the chimpanzees were outdoors. Numerous undergraduate interns assisted in supervision of the project and the coding process. The results were presented in a student co-authored paper (Puffer, Jensvold, Fouts, & Fouts, 2006).

All interns who are chimpanzee caregivers learn detailed record keeping skills as they maintain written records of the chimpanzees' signs and diet. This includes **Sign Checklists**, which are daily records of which signs the chimpanzees used. Additionally in **Sign Logs** interns record observations of chimpanzee-to-chimpanzee signing, private signing, multiple sign utterances, and other interesting interactions between the chimpanzees and their caregivers. Interns also are involved in data entry and these records provide longitudinal data bases for future analysis.

Videotaped Records

Deborah Fouts developed the **Remote Videotaping** procedure (RVT) while a graduate

student at CWU. In this procedure she focused four cameras on one chimpanzee enclosure. The camera operator controlled the cameras from a remote location. No humans were allowed around the chimpanzees during videorecording, which eliminated any potential cuing from humans. D. Fouts transcribed all instances of chimpanzee-to-chimpanzee signing from the videotape. In her thesis she reported Loulis' signing to the other chimpanzees (D. Fouts, 1984; 1994). Later an undergraduate intern summarized the other instances of chimpanzee-to-chimpanzee signing and presented this at a scientific conference (Jaffe, Jensvold, & Fouts, 2002). Another graduate student Bodamer reviewed the same videotapes for instances of private signing. The chimpanzees signed to themselves, like humans talk to themselves. (Bodamer, Fouts, Fouts, & Jensvold, 1994). Using the RVT, graduate student Jensvold recorded the chimpanzees for 15 hours and found 6 instances of imaginary play (Jensvold & Fouts, 1993).

In **Video Follow**, biannually and systematically interns videorecord the chimpanzees over a 2-week period. Interns learn videotaping skills while creating a longitudinal database, which is then available for research projects. Additionally interns videorecord special events and interesting behavior for the **Adventitious Videotapes** database. The Dialect study has made extensive use of the Video Follow and Adventitious Videotape databases. The Dialect study compares the forms of the chimpanzees' gestures to videorecordings from other field sites. Interns are involved in all aspects of the project including coding the videotapes, data analysis, and presentations at professional conferences (Fouts, Haislip, Iwazuk, Sanz, & Fouts, 1997; Fouts, Fouts, Daspit, Opperman, Pastore, & Sloan, 2001; Fouts, Fouts, Sloan, Daspit, Kuykendall, & Reider, 2001; Kuykendall, Reider, Daspit, Sloan, Fouts, & Fouts, 2002; Hicks, Lackey, Reider, Shiau, Fouts, & Fouts, 2003). The Laughter study also utilized the video databases. In this study interns coded information about play and laughter. Results of this study show a positive correlation between play bout duration and the presence of laughter as reported in two student co-authored conference presentations (Jensvold, Sheeran, Halberg, & Keyser, 2006; Halberg, Jensvold, & Sheeran, 2007).

Signed conversations are a natural part of all interactions between the chimpanzees and their caregivers. This creates an opportunity to systematically manipulate conversational variables. Conversations are videorecorded for a particular study or as part of an ongoing conversational database. Undergraduate interns act as camera operators and interlocutors. Additionally interns

have transcribed signs from the videotapes and have classified responses from transcripts. Prior to this the interns were tested for inter-observer reliability. Undergraduate interns often assist graduate students with these projects while gaining advanced skills in research techniques. Studies using this procedure have documented the chimpanzees' responses to misunderstandings (Jensvold & Gardner, 2000), mispronunciations (Davis, 1995; Radeke, 1994), social referencing (Hood, 1999), strangers (Hartel, 2006), questions versus statements (Simpson, 1994; Tierney, 2005), differing conversational styles, (Kennerud, 1993) and their use of sign modulation (Shiau, 2005) and categorization (Beaucher, 1995).

Live Data Collection

Numerous studies at CHCI have utilized live data collection to address a specific question. Specific procedures include focal sampling in which the observer records the behavior of a single chimpanzee or scan sampling in which the observer records the behavior of all of the chimpanzees. Continuous recording methods provide the amount of time the chimpanzee engages in behaviors. This method was used to compare to chimpanzees' responses to various types of visitors (Sanz & Jensvold, 1997). Time sampling methods record the behavior every set amount of time, for example every 15 sec. This procedure was used to examine the chimpanzees' activity budgets (Jensvold & Fouts, 1994; Jensvold, Kowalski, Radeke, & Fouts, 1993; Martin, Jensvold, Fouts, & Fouts, 1999), social hierarchy (Hayashida, Grandia, Blake, Eburn, Jung, Parker, Jensvold, & Fouts, 2001), use of their enclosure (Sanz, Fouts, Jensvold, & Fouts, 1999; Tecot, Jensvold, & Fouts, 1999), and their responses to food forages (Hartel, Jensvold, Bowman, Fouts, & Fouts, 2004) and environmental enrichment (Jensvold, Fouts & Fouts, 2001; Bowman, Jensvold, Fouts, & Fouts, 2002; Waters, McDowell, Jensvold, Fouts, & Fouts, 1999; Sanz, King, Jensvold, Fouts, & Fouts, 1998; Derbawka, Jensvold, Fouts, & Fouts, 2003). Scan samples have told us about the chimpanzees' proximity to each other (Opperman, 2001). The number of co-authors and references are a good indicator of the level of student involvement. Undergraduates are usually involved in all aspects of the project including design, data collection, analysis, and write up.

The longitudinal nature of the CHCI research and the ongoing data collection provide numerous opportunities for student involvement. Additionally students gain hands on experience in the seamless role of caregiver and researcher, a role that takes the chimpanzees on their own terms.

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