

Research Activity Report
Supported by “Leading Graduate Program in Primatology and Wildlife Science”

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1. Country/location of visit
Japan, Primate Research Institute
2. Research project
Comparative Cognitive Science Course
3. Date
2017. 09. 04 – 06
4. Main host researcher and affiliation
Prof. Masaki Tomonaga
5. Progress and results of your outreach activity
<p><u>Monday, September 4th, 2017:</u> In the morning, students were split into two groups of 3 and my group visited Tetsuro Matsuzawa’s lab, attending Gao Jie’s rock-paper-scissor’s famous experiments, as well as a demonstration of the “numerical ordering”, and “numerical memory” experiments from Matsuzawa-sensei. During this morning session, I asked whether Gao Jie or Matsuzawa-sensei intended to take the rock-paper-scissor’s game one step further by letting chimpanzees play against each other on a shared-touch screen. And apparently, this is work in progress... Then, in the afternoon, we went to see the horses’/poneys’ touch screen experiments that Masaki Tomonaga and Ikuma Adachi are conducting near Inuyama. The screen was divided into two and two images of landscapes were shown. In one of them, a horse was in the middle of the picture, in the other one, none. Subjects had to distinguish between the two pictures by touching the landscape filled with a horse. This was still a preliminary experiment as Tomonaga-sensei reported, but I wondered how horses would react if presented with a landscape filled with a horse and a landscape filled with a cow, for example, at the same time.</p> <p><u>Tuesday, September 5th, 2017:</u> In the morning, we attended Yuko Hattori’s sound experiments in which chimpanzees had to press a button associated to either a right or left speaker, where a target sound was coming from, while facing a central speaker playing a distractor sound. Then, in the afternoon, we attended Ikuma’s experiments on matching high versus low pitch sounds to different scales of grey, with the prediction that the lower pitch would rather be matched to a darker scale of grey.</p> <p><u>Wednesday, September 6th, 2017:</u> The morning part of the course was cancelled due to an anesthesia of one of the chimpanzee for health check. In the afternoon, we visited Tomonaga-sensei’s lab and attended different experiments conducted by him or his students. The first was a preliminary test to see the reaction time of chimpanzees. For this, the variable of interest was the latency between the moment a presented dot was touched on the screen and the moment the target was touched. In a second condition, chimps had to touch the dot and then a target but this time with a red rectangle or a moving pattern in between, in order to measure the distractor effect. In a third experiment, chimps were asked to match a color to a sample fruit, i.e. a red square to a red apple with a light square (- so, still red) or the same apple with a yellow square on it, or a banana with a light square on it.</p>

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Tomonaga-sensei emphasized the importance of testing shape matching rather than color matching. Then, Yuri Kawaguchi's (Master student) experiments were to recognize and touch the picture of an infant versus adult chimpanzee with some modifications to either picture such as switching to black and white, scrambling the infant picture, or scrambling the adult picture. Finally, Duncan Wilson's (PhD student) experiments asked whether chimpanzees' attention could be mediated by the different emotions displayed on chimpanzees' face and whether their response time in a matched-to-sample task would be affected by it.

Altogether, this course was a great opportunity to see experimental rooms I haven't seen before as well the different kind of experiments conducted in them and aiming to better understand chimpanzee's cognitive abilities. Thus, it also gave me new ideas of experiments, applying techniques I have seen, to test another range of research questions on chimpanzee's revulsions and cognition...

6. Others

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