**Class: Introduction to Animal Behavior**

**Sample worksheet: Practical tips in data collection**

One of the central challenges in the discipline of Animal Behavior is how to quantify behavior rigorously enough to allow replication of studies, extrapolation beyond a single study, and the application of statistical methods. While there are many methods used to put numbers to behavior, we will focus here on three of the most widely used techniques:

1. Focal (continuous) sampling: the observer chooses one animal and notes the duration of every single action for that individual. The sampling lasts for a predetermined/set time.
2. Scan sampling: At set intervals, the observer notes the activities in which every group member is involved at that instant. It gives a “snapshot” of the group’s activities.
3. *Ad lib*/*ad libitum* sampling: Only specific behaviors of interest are noted, if and when they occur. Duration of activity is not taken into account, but the identity of the actors is often essential.

**Think about these questions:**

1. Does it matter how long the focal samples last? Why/Why not? What about the interval between scan samples?
2. For each of the sampling techniques, how could you ensure that you get an accurate picture of the groups’ activities across the day/night?
3. Which method(s) are ideal for creating a study population’s activity budget, and why?
4. Which behavioral states versus events are you likely to record in a group of students during a lecture?
5. If I wanted to study your foraging behavior/decisions, which method(s) should I choose? What if I were studying your courtship behavior?

**Note for instructors:**

Here, you want to emphasize that rare, quick behaviors/events such as copulation are best captured through *ad lib* sampling. I found that students understood this well when I pretended to study them… Would I know much about their mating patterns from taking focal samples during class time? Hopefully not! Activity budgets are best captured through scan samples, unless you are really able to get focal samples of all group members across a number of days. Individual relationships and bond strengths are best captured through focal samples, although scans can also be useful if identities are always noted.

*After running a practice observational session with the suggested wolf videos,* ask students to update their behavioral codes sheet if needed. Did they see acts they did not understand? Discuss their notes and questions.

At the end of an “actual” video observation session, use the following questions as a discussion guide.

**Follow-up questions (after watching the feeding video):**

1. In each group of observers, decide which animal was the alpha/most dominant group member. Why are their differences between observers? How can this be corrected?
2. Provide an example of a behavior state you observed and contrast that with an action.
3. These videos were made to keep the public interested in the wolf center’s activities. The filmmakers therefore added captioning such as “Malik seeks comfort from Shadow.” Is this accurate, scientifically speaking? Why/why not? How would an impartial observer record such behavior?

**Note for instructors:**

Here, I found that the focal samples in particular showed a lot of variety. This is understandable, since all individuals did not interact with one another. Repeat samples over a longer period should create a more accurate picture of dominance patterns in the group. *Ad lib* and scan samples worked well for this short clip. Anthropomorphism is something we try to avoid, mostly by not ascribing intent to actions, but only noting what occurred.