Exploring relational values in the human-nature relationship in an evolutionary context.

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Introduction
In the field of environmental ethics, scholars are increasingly calling for educators to encourage students to develop relational values with nature as a step toward solving environmental problems and promoting sustainability. This is proposed as an effective problem solving tool for environmental problems because humans use values to judge how important something is when making a decision. If individual humans value nature or assign importance to nature, individuals would make better decisions relative to protecting nature and ultimately we might be more likely to solve environmental problems.

Values are generated by a combination of genetic and epigenetic factors and cannot be transferred between people in an identical fashion. Values are personal. Values cannot be taught in the same way that someone can be trained to make an ethical decision but values do help individuals make decisions relative to a given ethic or code of conduct. In the human-nature relationship scholars generally recognize three ethics: anthropocentric, biocentric, and biospheric/ecocentric. A given value may inform all of these ethics and we make no distinction here about which of these ethics is right or best. That said, students with a biocentric ethic are likely to more easily develop values in the activity below then students with other ethics.

In the course of teaching students about the biology of other species, biology educators frequently encourage students to develop instrumental values by recognizing that other species have value to humans. Increasingly, biology educators are encouraging students to develop intrinsic values whereby students recognize and assign importance to the idea that other species have value unrelated to humans (e.g. animal rights). Relational values, whereby students value or assign importance to their own personal relationship with other species, is usually not explicitly encouraged in biology courses, but may be encouraged incidentally via activities that attempt to connect the subject matter to student’s personal lives. Biology educators can encourage students to develop relational values with non-humans in a variety of ways, but one way we can do this is through an exploration of the similarities between humans and non-humans in an evolutionary context. The activities suggested below encourage students to develop relational values relative to non-human species while also reinforcing biological sciences learning goals.

Materials in this Module
- Module overview for instructors
- Worksheet for in-class discussion for students
- Discussion points for instructors

Suggested teaching methods to employ
Relational values with other species are more readily developed when the methods employed reference species that students are familiar with already and may encounter in the course of their everyday lives. Field trips may be a powerful tool for helping to develop relational values and instructors are encouraged to integrate local field trips as part of their teaching method. All activities should be locally or regionally relevant in order to help students both individually and collectively make connections between humans and other species. For example, if students live and learn in an urban environment, the instructional methods (field trips, pedagogy, case-studies) should focus on other species that live in an urban environment.

Evidence from the environmental ethics literature indicates that students prefer instructors to share their own values with the class. Do not be afraid to explain your values to students, but avoid suggesting the the values held by the instructor are correct or that students should model their values on the instructor’s values. Students should be encouraged to critically evaluate the instructor’s values relative to their own.

Instructional materials for promoting relational values need to be tailored on a local and regional basis for maximum effectiveness. As a starting point, a worksheet and set of discussion questions is provided that complements this teaching module. Appropriate pedagogical techniques are those that engage students in active consideration of their own value system. Peer-peer, group, and class discussion are appropriate. Field activities and writing assignments would also be appropriate.

**Goals**

Relational values are promoted when students:
- Reflect on their individual relationship with non-human organisms
- Recognize that “human traits” have a shared biological and evolutionary basis with other organisms

Learning goals in the biological sciences are reinforced when students:
- Make connections between the subject matter and their lives
- Know that science can be subjective and is not value-free
- Critically evaluate subjectivity to form an opinion about the validity of the conclusions of others.
- Draw upon previously learned material to understand novel concepts
- Better understand ecological and evolutionary processes
- Recognize links between biology and other academic disciplines