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Curiosity, Connection, & Community in Vertebrate Evolution & Natural History

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Digital Counter-Storytelling for Student Leaders FLC Curiosity, Connection, & Community in Vertebrate Evolution & Natural History Dr. Jessica Castillo Vardaro

Department of Biological Science, College of Science

Vertebrate Evolution & Natural History (ZOO 116)

- Upper Division elective for Ecology & Evolution undergraduate students
- In this class, students:
 - Investigate vertebrate evolution from early chordates through mammals
 - Identify vertebrate taxa & explain how morphology and systematics relate to natural history
 - Describe the natural history of select Californian taxa

Identifying and Growing Student Assets

Students we asked to make connections between the course material & human culture in 2 main activities

- **Species accounts:** brief overviews of individual species, including their relationship to humans whether as a food source, cultural symbol, etc.
- **Final project:** creative work integrating course content with personal and/or cultural connection

Students used a variety of formats and tools, including Adobe stock, Illustrator, etc.



Alebrije

This piece by Christina Lazaro was accompanied by a narrative explaining how they combined their knowledge of natural history with their Mexican culture to produce a work of art. Each component was carefully selected and described from both perspectives.



Digital to Print Vampire Bat Zine

This work combines natural history with human perceptions and misconceptions of vampire bats.

Students integrated their own experiences and cultural knowledge with the course content.

Creating Community

Students from non-majority backgrounds in STEM often feel like they are not represented in the course content, nor seen and valued as whole individuals within our classrooms. Further, STEM classrooms often lack personal connections by design: we're trained to be "objective observers". Counterstorytelling in this context involved students integrating science and culture in a way that was meaningful to them, and giving students permission to bring their whole selves to the classroom.

Student Well-Being and Success

Students perform better when they feel a sense of belonging in the classroom and a connection to the material. In the daily species accounts, students articulated the relationships between these organisms and humans, deepening our understanding of our impact on each other and place on this planet. In their final projects, students expressed a personal connection, communicating their values in the context of the knowledge gained throughout the term. Both activities emphasize that we are not separate from nature or each other.