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Call of the Wild: A Qualitative Analysis of Goal-Setting among Biology Undergraduates at a Regional Zoo

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The Call of the Wild: A Qualitative Analysis of Goal-Setting among Biology Undergraduates at a Regional Zoo

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INTRODUCTION

What is Informal Learning?

Learning that takes place in an **out-of-school** setting in which individuals have a choice of whether they want to do something or not.

Why focus on Goal-Setting?

While the effect of students' achievement goals on their academic performance has been studied, **little is known about undergraduate goal-setting during informal learning experiences.**

Research Questions (RQ)

1A. What are the topics and themes that students intend to learn about on their zoo trip?

1B. Are students in the free-choice or formal learning group more likely to accomplish their "learning" goals? What prevents students in each group from accomplishing these goals?

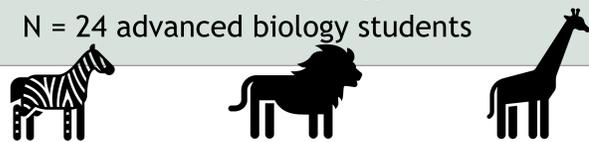
2A. What activities do students intend to engage in on their zoo trip?

2B. Are students in the free-choice or formal learning group more likely to accomplish their "activity" goals? What prevents students in each group from accomplishing these goals?

METHODS

Participants

- N = 37 introductory biology students
- N = 24 advanced biology students



Instrumentation

Students completed the **Goal-Setting Assessment (GSA)** before and after their trip, regarding what they hoped to **learn** and **do**, **emotions** they hoped to experience, and **people** they hoped to interact with.

METHODS

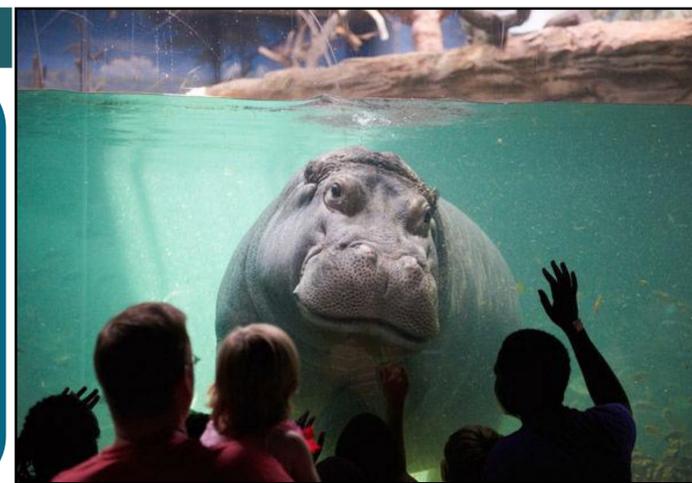
Zoo Intervention

Formal Learning Group:

- GTA "chaperones" to lead them around zoo, or guided zoo tours
- Specific visitor agenda to follow
- Structured assignment

Free-choice Learning Group:

- No GTA "chaperones"
- Able to visit whatever exhibits they wanted in whatever order they preferred
- General handout

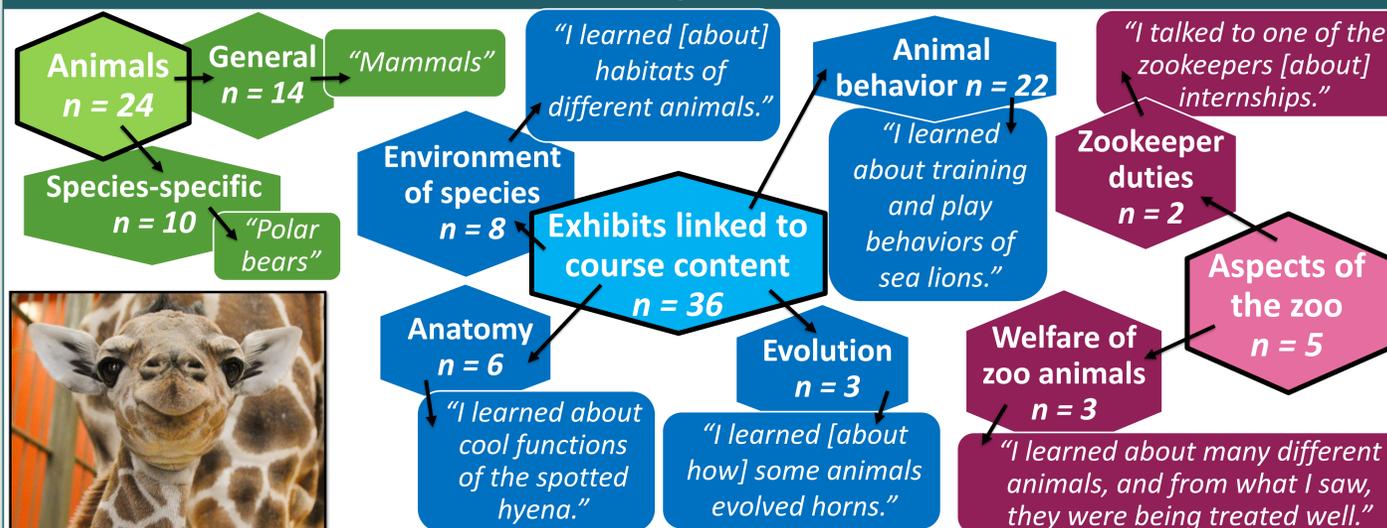


Statistical Analyses

- Descriptive statistics
- Thematic analysis in NVivo

FINDINGS

RQ1A: Common Topics & Themes to Learn



RQ1B: Free-choice vs. Formal Learning

Free-choice
89%

Formal
78%

Learning Goals

Students in the **free-choice learning group** tended to achieve their "learning" goals more often than those in the **formal learning group.**



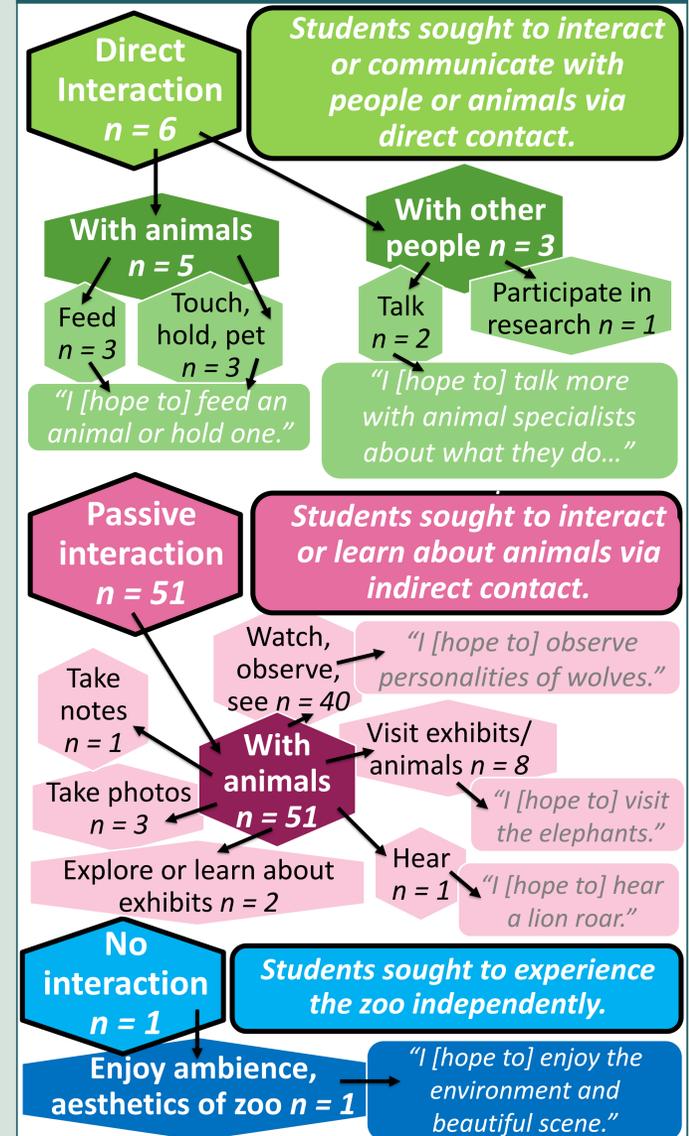
13.1% of students did not achieve their learning goals

(n = 2 free-choice, n = 6 formal)

What were the most common reasons?

- External (e.g., exhibits closed, talks cancelled)
- Internal (e.g., student became interested in something else)

RQ2A: Common Activities to Engage In



RQ2B: Free-choice vs. Formal Learning

Activity Goals

There was no difference in achievement of "activity" goals between groups.

14.8% of students did not achieve their activity goals (n = 2 free-choice, n = 7 formal)



What were the most common reasons?

- External & internal reasons

So, why care about goal-setting?

- ✓ The goals undergrads set for themselves in places of informal learning are **inherently different** from those they set in formal classrooms.
- ✓ Engaging more undergraduate students in informal learning experiences could in time **resolve the leaky STEM pipeline.**