Intertwining Gaming Aspects with Environmental Learning
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Background
- The method of teaching environmental education focuses on changing environmental attitudes.
- For students, environmental education should be a tool to learn about the environment.
- However, students lack the basic ecological knowledge required to understand how the environment behaves.
- Thus my research aims to look at the implementation of elements from games into lessons to see how the gamification of tasks encourages engagement from students.
- **Gamification**: components in-game that are used to enhance learning.

Research Question
To what extent do different digital gamification elements increase student engagement in environmental education?

Results (pt.2)
- The students take charge of their own learning, with educators providing crucial information and helping the students analyze the given environmental problem.
- When asked, elementary school instructors are most likely to include game-based activities in their lessons (Fig 2).

Implications
- Environmental education games are not a new concept
- Many developers are using video games for environmental awareness
- Pokémon GO has recently promoted with Ecosia committed to planting up to a total of 100,000 trees
- By Including game features, more students engage with learning

Internship & Method
- Intern with the Friend of the Conservatory (FOC) at the Volunteer Park Conservatory.
- I worked with my team to develop an environmental education field trip curriculum for students of 3rd to 6th graders.
- Literary analysis of past experiential environmental learning using (digital) gamification to encourage students’ participation.

Fig 1: Students are participating in outdoor activities and had an opportunity to use their iPad to record specimens during their walk to share their findings later in class.

Fig 2: The graph above shows the data collected from elementary teachers who participated in answering a survey asking for their opinion on the inclusion of gamification in learning lessons. Sample Size: n=11

Teacher Option on Include Digital Gaming Activity in Environmental Education

![Pie chart showing teacher options](chart.png)

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Fig 3: Australian mobile environmental education game, designed with the intention of encouraging players to be more observant of species that can be found in their travel and surrounding.