



## Schoolyard Biodiversity Exchange (SBE)

Student Scientists Data Network for Schoolyard Global Biodiversity Habitats

*The Ecological Society of America  
Annual Conference, 3-6 August 2020*

### PROBLEM

Biodiversity loss  
Nature deficit in youth  
School children spend the majority of time indoors at school  
Teachers need tools to implement experiential learning  
Lack of opportunity to share data with other students

### INQUIRY

**IMAGINE WHAT COULD HAPPEN** if students became citizen scientists, interacting with others around the world, sharing data and designing biodiversity projects?

**IMAGINE THE INCREASED BIODIVERSITY** if school grounds went from asphalt and monoculture grass to ecosystems?

### SOLUTION: THE SBE

The Schoolyard Biodiversity Exchange (SBE) empowers middle and high school teachers and students across the globe. Teachers will use experiential and place-based learning methods, unleashing the potential for ecological school grounds to increase biodiversity and connect students with the natural world and with each other through international, student-driven projects.

### SURVEY METHODS

- Ten middle and high school teachers in Kansas field-tested the curriculum module during the 2018 fall and winter semesters.
- Seven of these teachers completed a survey in September 2019 asking how they would use the module.
- Our questions:
  - 1. Would teachers use the curriculum module in their classes?
  - 2. Would they be willing to test the digital tool?

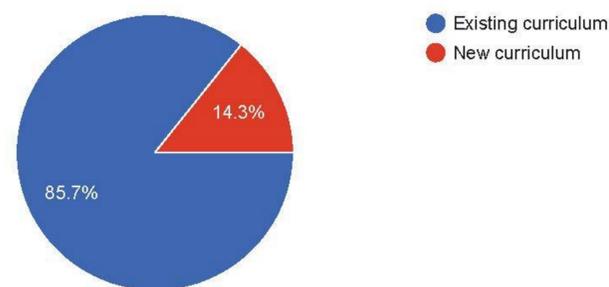


Barren schoolyard

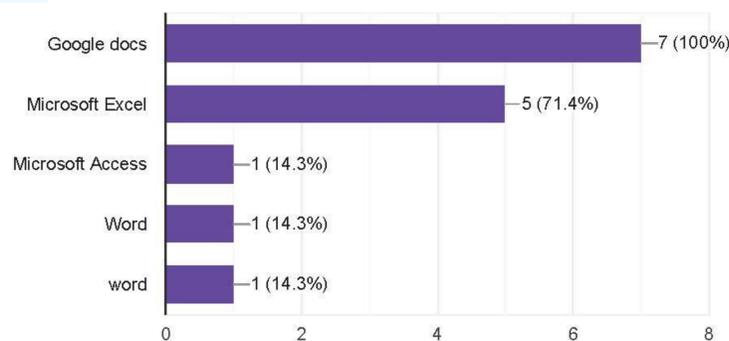


### RESULTS

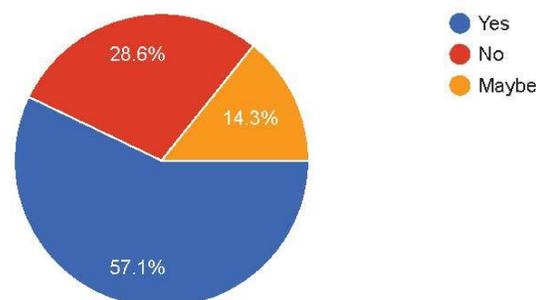
- All seven teachers said they would use the curriculum in at least one class.
- Most of them indicated they would use it in an existing class.



- Environmental education was the most-mentioned class, with biology, science, environmental science, wildlife biology, plants, herpetology, and ornithology also mentioned.
- Teachers mostly use Google docs in their classrooms, with Microsoft Excel a close second.



- We asked whether teachers would be willing to beta test the digital tool once it is ready. Most of them said they would.



- Teachers indicated they were excited about the SBE, and that it would help them use their school grounds for learning about biodiversity and connecting with students in other countries.

### SBE DESIGN

The SBE consists of three parts:

**PART 1: Curriculum:** Module of place-based learning activities:

- mapping;
- data sampling methods;
- inventory of plant and animal species; and
- species identification

**PART 2: Online database:** Schools will enter their species data

**PART 3: Network Data:** Web-based visualization tools to share, manipulate, and present data with schools globally

- Students will form international partnerships on projects
  - Example: Students in Kansas and Ukraine can design a project to study butterflies.

### NEXT STEPS

- Spring 2020: An e-mail database prototype designed.
- Summer 2020: Data prototype tested at The Prairie Center in Olathe, Kansas.
- Fall 2020 and beyond: Seeking partner(s) to support 'scale up' to a fully online, commons tool.



### ACKNOWLEDGMENTS

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