Drawing Learners Outside with Technology: Making and Using Virtual Fieldwork

Don A Duggan-Haas (dad55@cornell.edu); Robert M. Ross; Ingrid Zabel, The Paleontological Research Institution

What are Virtual Fieldwork Experiences?

Virtual Fieldwork Experiences (VFEs) are multimedia representations of field sites designed to promote meaningful, inquiry-based exploration; where learning is guided by asking the question, “Why does this place look the way it does?” The poster shares field sites that facilitate VFE creation and highlights how to use them, further promoting the inquiry process and creating excellent place-based learning for a range of learners and institutions.

VFEs catalyze actual fieldwork

By teaching formal and informal educators to develop VFEs, and how to engage their students in doing likewise, we are creating opportunities for engaging learners in the up-close study of nature. And, we are doing so in such a way that it creates evidence of having done so. The evidence is in a form of educational resources that facilitate the comparison of environments across the country. This is an exciting way to truly use the local to understand the global.

VFEs are being used as a central feature of several of our outreach projects and as the experience of the project leaders deepens, the sophistication of both the technology and the pedagogy of participants is increasing. Video-linking field sites and classrooms has been piloted and offers fascinating possibilities for increasing. Video-linking field sites and classrooms the technology and the pedagogy of participants is exciting way to truly use the local to understand the global. VFEs, and how to engage their students in doing so in such a way that it creates evidence of having done so. The evidence is in a form of educational resources that facilitate the comparison of environments across the country. This is an exciting way to truly use the local to understand the global.

Inexpensive tech makes it easy

A tablet or smartphone with a data plan and a field site with cellphone coverage makes field to classroom connections simple.

Field to classroom connection

Why does my place look the way it does?

The activity connects your classroom to another in a different natural setting.

The two classes will teach each other about their ecosystems and why their places look the way they do. “Zoom” is really a microscope for a larger idea or concept. It’s the same way we do a field trip. Now it is digital.

What do you know? What do you want to know? What do you want to find out?

• What are the prominent plants?
• Martian soil/plants impact soil formation?
• What are animals shaping the land? Martian soil/plants impact soil formation?
• What are animals shaping the land? What are the prominent plants?
• What is the climate of the place? How does Dinosaur ridge look the way it does?

For all of these questions, how do you know? What do you want to find out? What do you want to find out? What do you want to find out?

What effects do humans have on the ecosystem?

• What resources do humans use in this place?
• What are the prominent plants?
• What do you want to find out? What do you want to find out?

What do you know? What do you want to know? What do you want to find out?

Wallace D. Miller III

Classroom to classroom connection

A sampling of technologies used

This material is based upon work supported by the National Science Foundation under grant No. 0733903. Any opinions, findings, and conclusions or recommendations are those of the authors and do not necessarily reflect the views of the National Science Foundation.