Data Science Education Technology with CODAP

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William Finzer, Senior Scientist
Concord Consortium

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Overview of Webinar

(Ask questions at any time)

- Background
- Tour of the Common Online Data Analysis Platform (CODAP)
- Implications of “platform”
- A budding community and the Data Science Education Technology (DSET) conference
The Data Revolution

30 years ago data were scarce and only a privileged few had access.

Today data are everywhere. Everyone has access. Too few have expertise.
The Data Revolution

No solution to any significant problem facing us today can be found without involvement of people who work expertly with data.
What is Data Science?

Data Science

- Computing and Data Skills
- Math and Statistics
- Content Knowledge
Data Science Education

• Purpose: Bring about data fluency
• Means: In-depth experiences working with data throughout schooling
• Required: Ubiquitous, appropriate technology
The Gap

Most projects seeking to develop online materials to teach STEM wish to engage students in working with data.

BUT

No appropriate technology yet exists to bring that about in a satisfactory way.
Questions so far?
What is CODAP?

- Free, browser-based, open source, client-based web application for data exploration
- NSF-supported (DRK12 & Cyberlearning) project in its third year of three, based at the Concord Consortium
- A platform for use by curriculum and software development projects
- Adaptable to a variety of modes of integration with online materials
CODAP Links

- CODAP Project Site
- Launch CODAP
- CODAP Help
- CODAP at NSF Video Showcase
- CODAP Embedded
- Data Interactives
Demo of Standalone CODAP
CODAP Features

- Document-based
- Can embed web pages and text within a document
- Dynamically modifiable hierarchical data structures
- Drag and drop interface
- Multiple data representations with linked selection
- Easy to import data
- Handles numeric, categorical, location, and dates
Questions so far?
Implications of “Open Source Platform”

Other projects can
• Use
• Build on
• Contribute to

CODAP
Collaborators

1. InquirySpace 1 & 2 (Concord Consortium)
2. OceanTracks (EDC)
3. Terra Populus (U of Minnesota)
4. Building Models (Concord Consortium)
5. Students Discover (NCSU)
6. UKDE (Physics Front)
7. ESTEEM (NCSU)
8. Data Science Games (Concord)
9. Zoom In Science (EDC)
Modes of Integration

- **Standalone environment** for data exploration and dissemination
- **Embedded widget**
- **Container** for data-generating interactive
- **Behind the scenes library** for data visualization
Questions so far?
The Importance of Community

• Because it’s open source with a commercial friendly license, many different kinds of education projects can make use of and contribute to CODAP.
• Contributions benefit the entire community of developers and users.
Data Science Education Technology Conference

DSET Conference Web Site
February 15–17
Berkeley, CA
Registration is limited but there are still places available
Questions?
Thank you!
@CODAPDataSci