Understanding and Supporting User Discovery Experiences across SERC Websites

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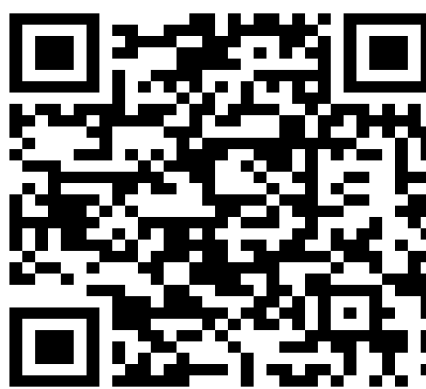
CONTEXT

The Science Education Resource Center (SERC) currently hosts materials from more than 120 geoscience education projects. The majority of geoscience faculty report using these materials to support their teaching. However, the project-focused structure of the SERC website means that information is siloed and many users have difficulty navigating the full breadth of the collections.

COMPASS PROJECT

Through the Compass project, we have made broad-ranging changes to the discovery affordances across SERC-hosted websites. A variety of overlapping methodologies were used to both identify specific challenges and to help us understand if our changes were leading to the discovery experience improvements we had targeted.

https://serc.carleton.edu.edu/compass

VISITOR CHALLENGES

Visitors **drop directly into pages** deep within a project and never venture beyond that project. Missing out on relevant content from other projects.

Visitors perform **broad searches** ("intro," "scientific method") from search interfaces that cover thousands of pages and are **overwhelmed** by the results.

When visitors jump between project websites, it's easy to get **lost** and lose track of promising resources from earlier in their visit.

TOOLS FOR UNDERSTANDING

Tools help us identify the challenges

Tools help us understand the effectiveness of our solutions

Aggregate Use Analytics
Record all visitor interactions with the site and mine this data for overall patterns of use. How much traffic to a particular page? How much use of a particular navigation aid? What search terms are visitors putting in?

Session Analysis
Identify visitors who saw a key page or interacted with a specific navigation element. Then qualitatively characterize how that interaction impacted their overall path through the website.

Page Interaction Analysis
Where within a particular page have visitors interacted (clicked, searched)?

Walkthroughs
Observe as volunteers navigate the site, narrating their experience as they perform an assigned discovery task.

Surveys
A variety of geoscience educator surveys over the last 15 years have asked questions that shed light on visitors' perception and experience on SERC websites.

EXAMPLE IMPROVEMENTS

Pages You Might Like recommender on each page provides direct connections to related content from other projects to encourage cross site movement.
Averaging more than 50 users per day.

New in-page navigation elements provide multiple ways for visitors to learn about and **jump up to the Teach the Earth portal**. From there, they can explore multiple projects.
Averaging more than 50 users per day following these new links.

50% increase in the fraction of visits that see Teach the Earth.

10% increase in the fraction of visitors that see multiple project websites

Redesigned front page encourages visitors to use more narrowly-scoped discovery interfaces.
Reduced the use of the most broadly scoped search interface from 40% of front page clicks to 22%.

Increased the number of SERC front page visitors who move to the more specific Teach the Earth interface by a factor 4.

New **teaching activity-specific search** starts with a more targeted scope and provides activity-specific facets (e.g. grade level, online teaching readiness) that help winnow the results.
Used >15,000 times in the last year.

Facets were used twice as often as those in the main front page search.

Where I've Been area on every page shows a visitor their recently visited pages on the site, supporting better orientation and allowing for easy back-tracking.
Averaging 25 users per day (1% of multiple-page visitors).

Favorites feature allows visitors to track and revisit pages they've visited. This feature is just rolling out.