



THE NATIONAL SCIENCE DIGITAL LIBRARY

teachers'domain[®]



Teachers' Domain: "Use Case" for Evaluation via Web Metrics

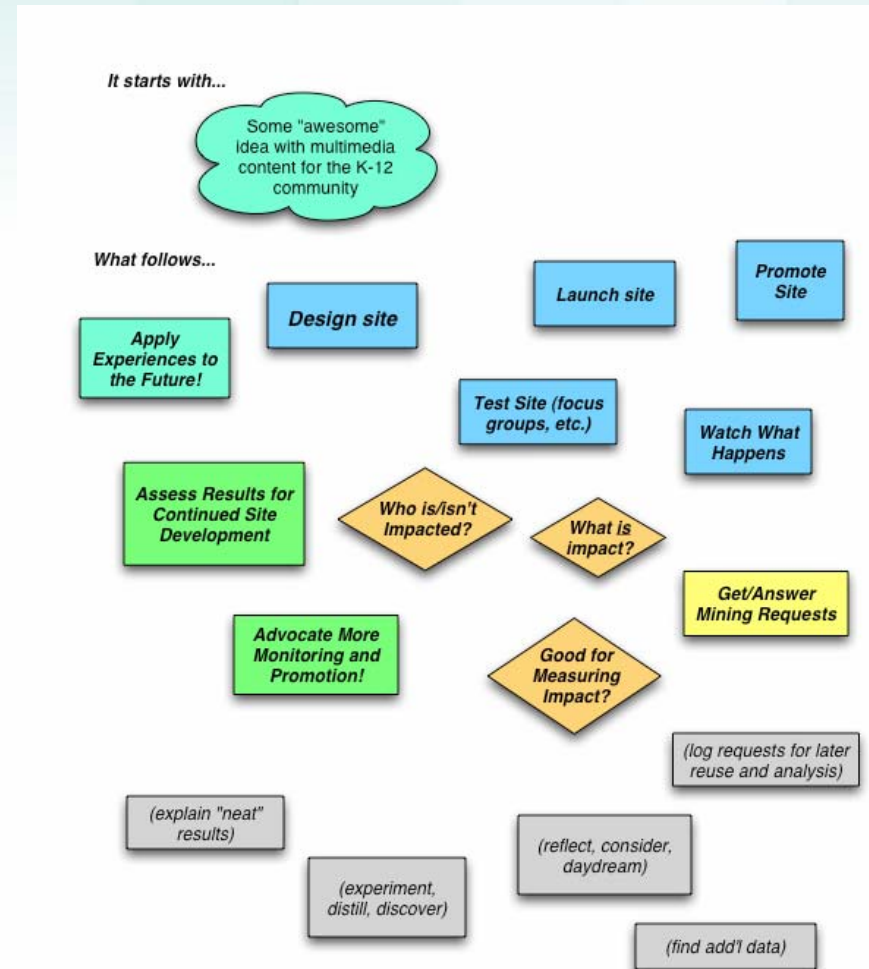
Bob Donahue

WGBH Educational Foundation



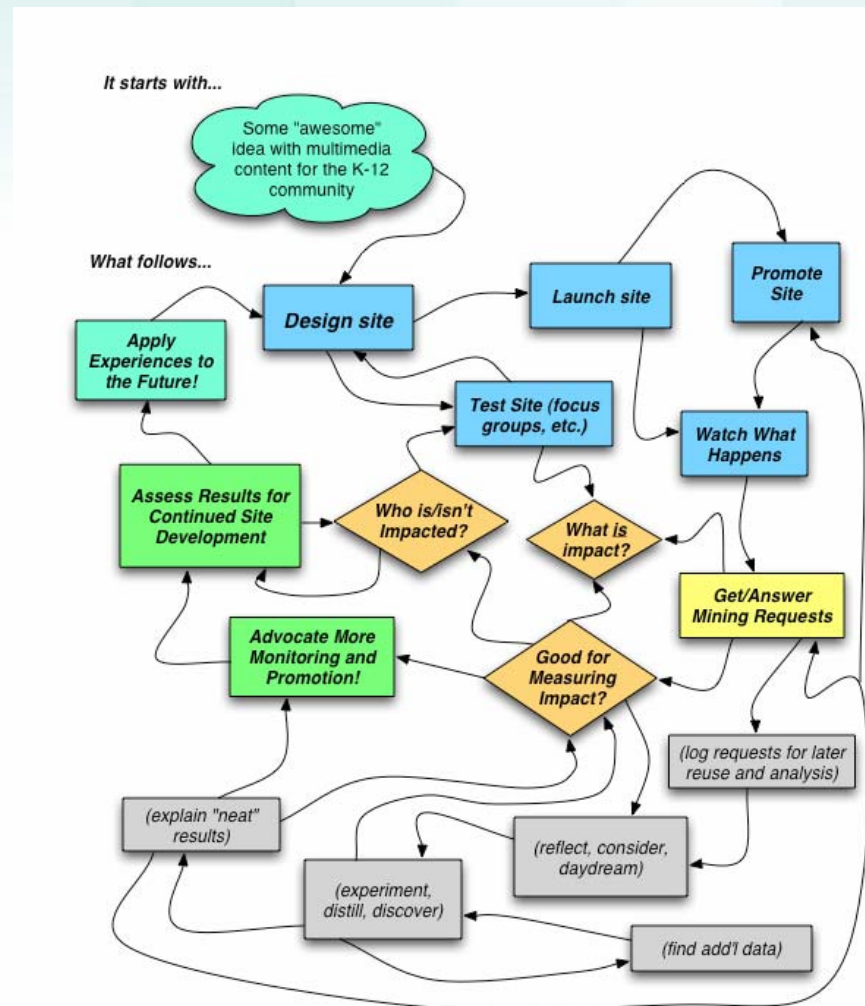
Why? (and What?, How?, to Whom, etc.)

- **Why:** The “big” question: is the end result worth the effort to produce and maintain it?
- **What** can be used to accomplish this assessment?
- Comparative success of different metrics and methodologies inform others (i.e., **Who.**)
- **How**(used): defined by strategic importance.



Why? (and What?, How?, to Whom, etc.)

- BUT the relationships are "complicated:"
 - Everything is evolving;
 - Alterations happen at all phases of the process;
 - The specifics of who/what/how/etc. also change over time.
- *So: what have we learned about this convoluted situation so far?*

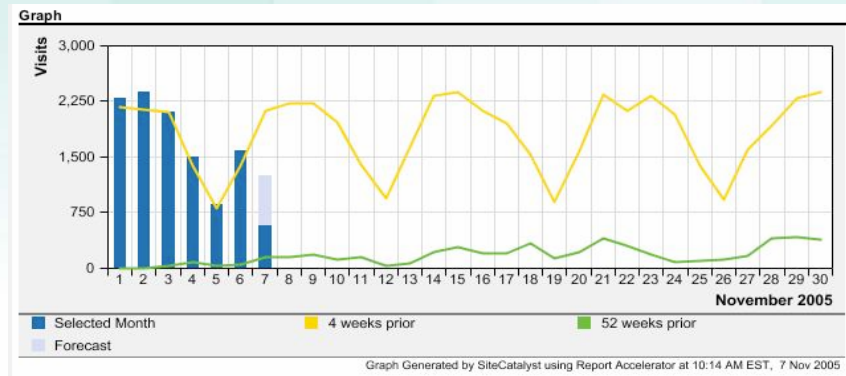


Teachers' Domain: Quick Background

- Registration is required
 - Necessary due to obligations involving digital rights: clearance is generally granted for a educational audience.
- Registration is done with a user account tied to organization/school.
 - Avoids “user name burn”
 - Organization metadata *greatly enhances* data mining capabilities.

Teachers' Domain: Sources of Metrics Data

- User and Organization registration information
- Slightly-enhanced Web logs
- Omniture SiteCatalyst allows us to begin to collect more meaningful usage data
- *Test Drive* allows access without sign-in for a limited number of resource views, to facilitate direct links from NSDL and other metadata harvesters



teachers'domain® Multimedia Resources for the Classroom and Professional Development

Engage and Inspire K-12 Learners!

Teachers' Domain is a multimedia digital library for the classroom that provides learning experiences in ways no textbook can. This ever-expanding library currently includes collections on:

- Science: Life Science, Physical Science, Engineering
- Social Studies: The Civil Rights Movement, *Brown v. Board of Education*

Teachers' Domain offers:

- High-quality multimedia from NOVA, *American Experience*, and other public television productions and partners
- Video, audio, interactives, images, and documents
- Explanatory background articles for each resource
- Correlations to national and state curriculum standards
- Media-rich lesson plans
- Resource management tools

For more details, take a [Tour of Teachers' Domain](#).

Please sign in:

Sign-in Name:

WGBH Educational Foundation
[Change organization](#).

Password:

[Forgot your password?](#)

Not yet registered? [Why should I register?](#)

Registration is simple, safe, and free!

New for Professional Development:
Learn online when it's convenient for you! Check out our new [Teachers' Domain Professional Development courses](#).

Typical Data Mining

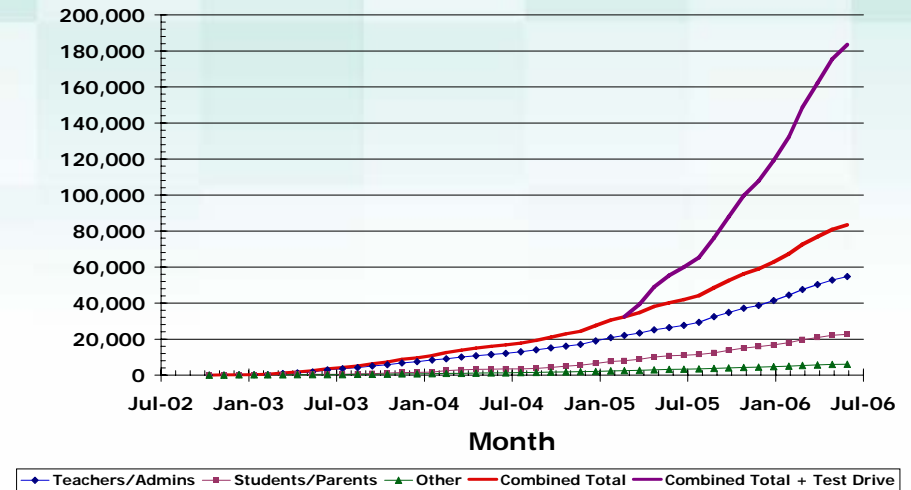
- Registered Users: over 80,000
 - 50,000 Teachers/Admins
 - 25,000 Students/Parents
 - 5,000 Other

- 100,000 Test Drives

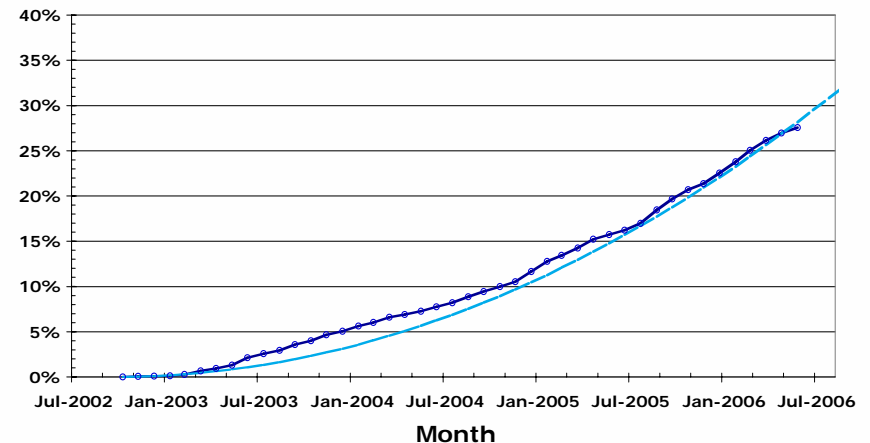
- Identified K-12 Schools: 27,500

- Over one in four US public schools have already used Teachers' Domain!

Teachers' Domain Users

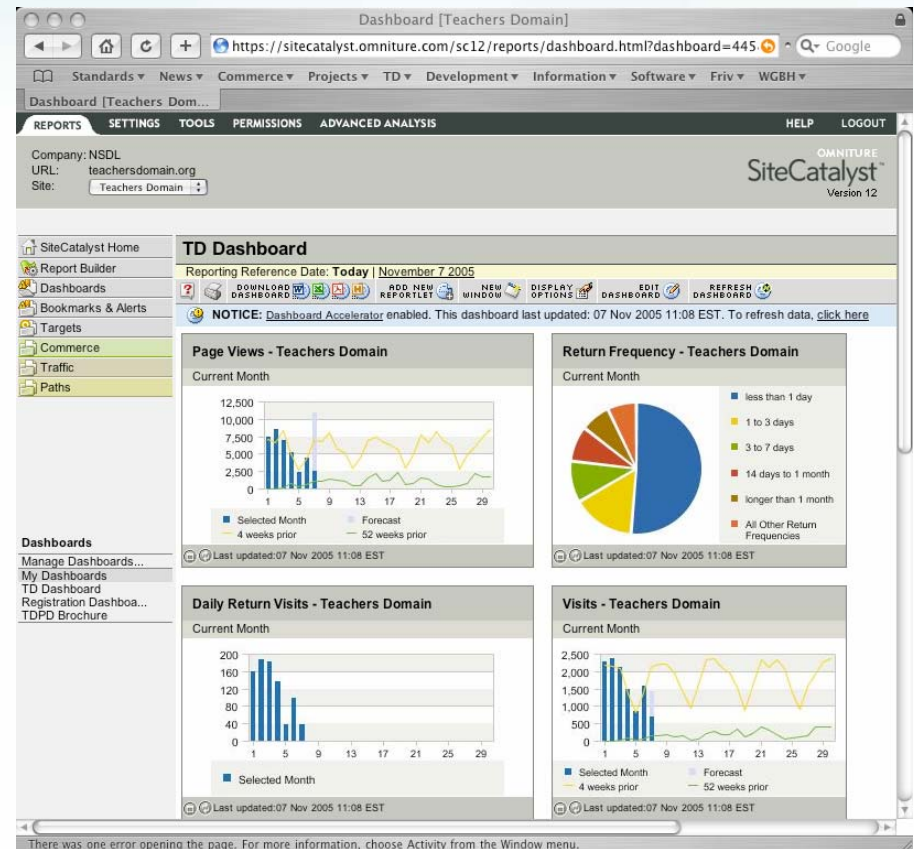


Penetration of US K-12 Public Schools (es)



NSDL/Omniture

- Phase 1: Nov. 2004
 - Tagging of NSDL-relevant pages on the TD site (science section only)
- Phase 2: July 2005
 - Intensified tracking by:
 - State/Region, Country
 - Zip/Postal Code
 - User Type
 - Organization Type
 - Site Page Type
 - “Test Drive” Users

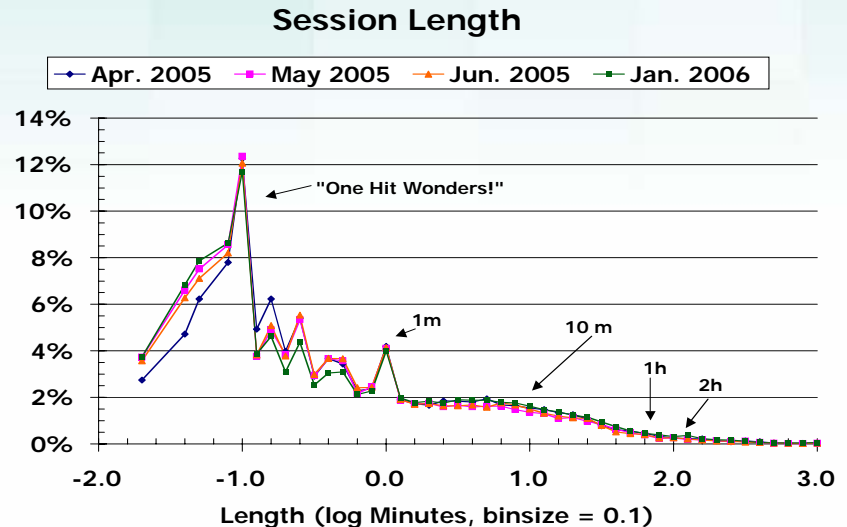


Discoveries from the Omniture Analysis: “Impacting Impact”

- Identification of Underserved Communities
 - K-2 teachers are actively seeking online resources!
 - Lesson Plans are also disproportionately in demand
- Initial Assessment of site “stickiness”
 - The average is approximately 10 minutes, which is our expected time frame for classroom usage (e.g., a teacher showing a video clip) *(however...)*
- Entries from popular search engines (Google, Yahoo)
 - Search terms tend to be extremely specific and suggest good agreement with the web site content
- Behavior doesn't always follow the design plan!
 - How some users navigate the site points out inefficiencies that can be addressed with design changes

Getting the “Right” Answer for the Wrong Reasons: The Perils of Unsupervised Reporting!

- Omniture stats show an average session length on order of 10 minutes.
- Yay! That’s what we expected!
- In reality, *there’s a very large spread with two distinct populations of users.*
 - “Window Shoppers”
 - Longer sessions
 - Success comes from a broader use of the site
 - “Express Lane Shoppers”
 - Shorter sessions
 - Very targeted needs
 - Success comes from finding things quickly

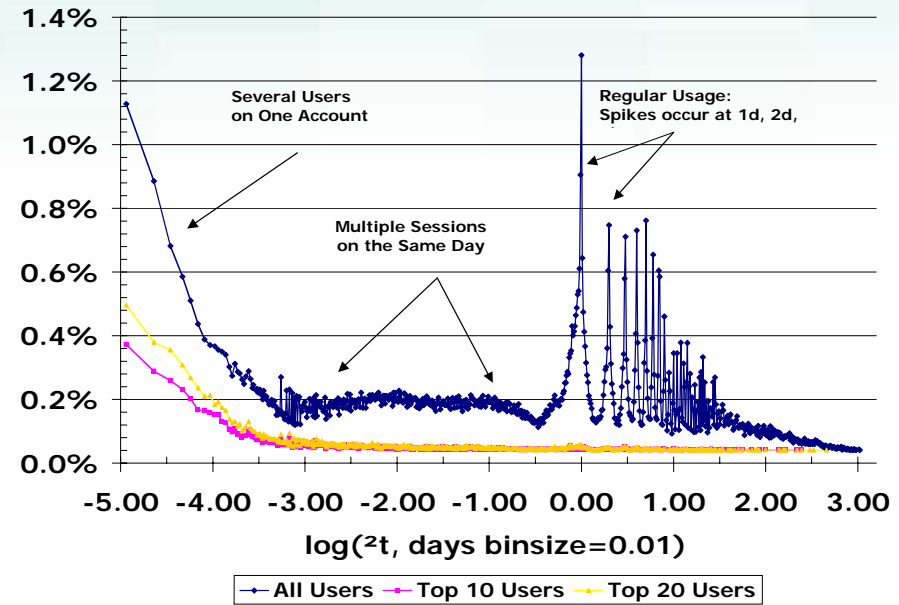


- Measures of “success” might not be the same for each population!
- Evaluating impact has to take these differences into consideration!

Definitions versus “The Real World” Even “Simple” Metrics Aren’t Simple!

- The complex structure breaks down to several behavioral cases:
 - There are several dozen “spikes” centered on 24-hr multiples suggesting that many users come to the site around the same time each day.
 - Other users seem to be more sporadic (minutes to hours)

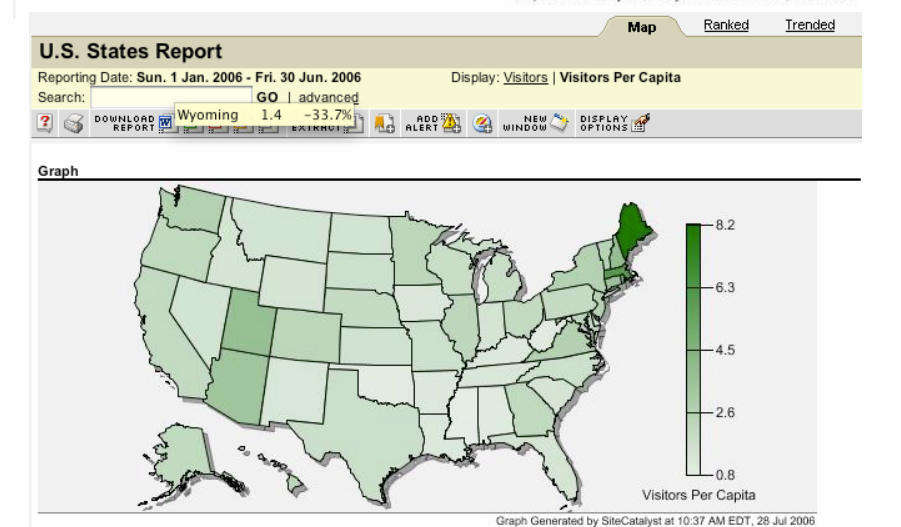
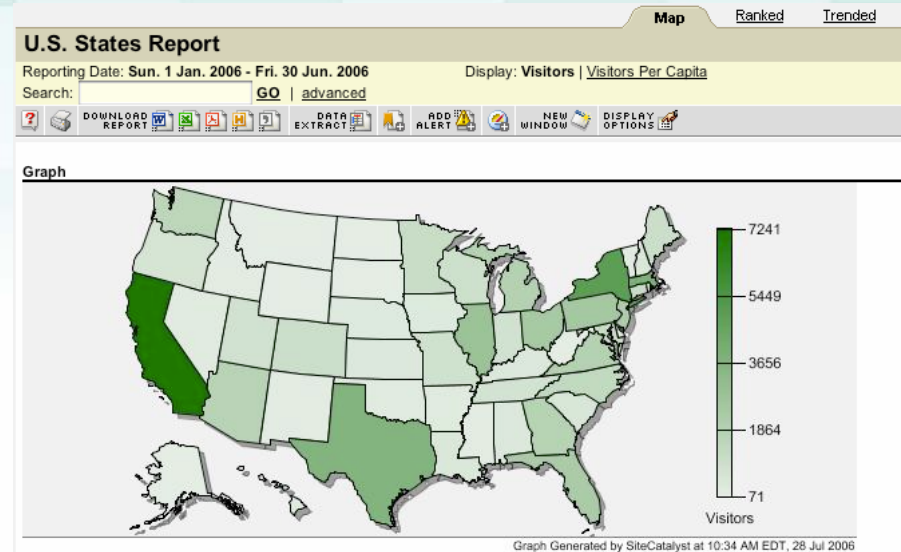
Login Frequency Histogram



- What’s the weird tail?
 - Frequency on the order of a few seconds between logins by the same account!
 - The Top 20 users by login (0.027% of 75,000) make up almost 50% of the tail!
 - Reason: One teacher’s account used by the entire class of students in a computer lab. “1 user” = “many actual people!”
- Users do not always behave the way you expect they will!

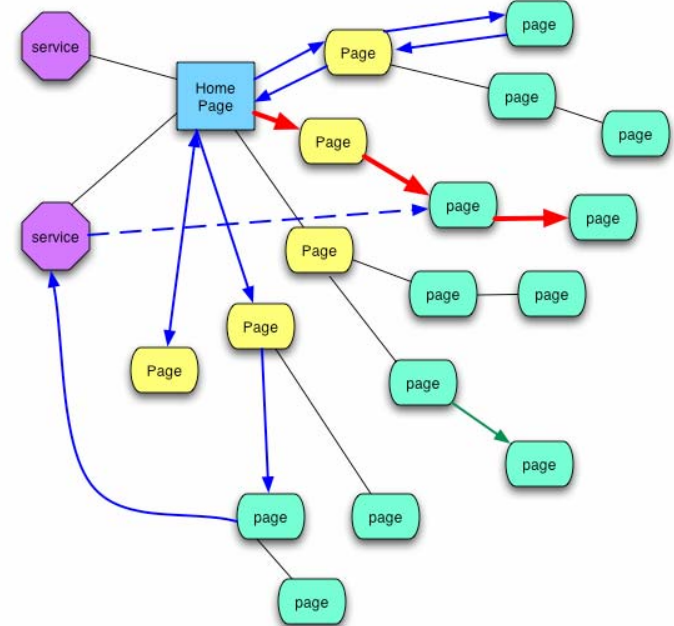
Omniture: Phase "2 1/2"

- Since the pilot, Omniture has added several very cool features!
- In particular, they now have geographic tagging down to the city level!



Omniure “Wish List”

- Follow any specific user session.
- “Map” of site nodes overlaid with path and traffic information.
- Cross-referencing of custom metrics with other reports, e.g. “What’s the traffic for only users identified as teachers?”



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