

Report on K-12 Teachers Needs Analysis for the California Digital Library

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Overview

- ✓ Introductions
- ✓ Background
- ✓ Goal and Research Question
- ✓ Design and Method
- ✓ Findings
- ✓ Analysis

- ✓ Discussion

Introductions

- Chris Ashley, Policy Analyst (formerly IU), UCB
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- Jim Harris, Interactive University, UCB
- Jane Lee, Assessment Analyst, CDL
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- Felicia Poe, Assessment Coordinator, CDL
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- Rosalie Lack, Manager, Public Content, CDL

Background

- **CDL:** How to take fuller advantage of materials in digital libraries to create materials for classroom use.
- **AW: User needs assessment**
 - Role of online collections to support instruction
 - Obstacles encountered in using online collections
 - Desirable tools for more effective use of materials

Goal and Research Question

Goal:

Explore how to configure collections to meet users' curatorial, research or teaching needs.

Research Question:

How do K-12 teachers use digital materials in their teaching?

How do K-12 teachers use digital materials in their teaching?

- By “use” we mean “Gather, Create & Share”
- By “teaching” we mean the breadth of teaching practice: teacher research, preparation, & delivery
- We looked at how teachers use non-digital materials,
- How they currently use digital materials, and...
- How they might like to use digital materials.

Examples of teaching practice

- Information gathering on the fly
- Research for content knowledge and definition
- Materials for overheads and handouts
- Use of materials to plan and create small and large supplementary curriculum sources

More examples...

More examples

- Creation of full-blown lessons and units
- Vetted or prepared materials that students are guided to and use independently and collaboratively
- Materials that students seek and find to interpret or create something new, such as a paper or presentation

Design and Method

- Elicit teacher stories, guided discussions
- Collaboratively designed instrument
- Open- and closed-ended questions
- Selection: snowball
- Three districts, all high school
- Interviewer and observer, on-site
- Taped interviews, selective transcription
- Stipend: \$50 gift certificate for 60-75 min. interview.

Teacher stories

- PPT as an object container
- Printing articles and overheads
- DVD ripping, mixing, & burning
- Reliance on a professional membership organization's web site

Findings

- Often, good planning begins with a question
- Teachers update content knowledge
- Teachers identify usable resources
- Teachers create teaching materials

More...

More Findings

- Printing and photocopying
- Using materials is a social endeavor
- PowerPoint?
- Poor technology in schools
- Not enough computers in schools

Often, good planning begins with a question

- Questions guide teachers' planning and research process, and guide student discovery, analysis, and synthesis, for example:
 - Was America justified in invading Mexico in 1846?
 - Are democracy and capitalism compatible?

Teacher content knowledge

- Update information
- Clarify concepts
- Gain better, deeper understanding

Identifying usable resources

- Because materials didn't work
- Because materials are outdated
- Supplement or replace existing resources
- Given new course assignment

Teacher-crafted teaching materials

- Teachers find, assemble, organize and present teaching materials
- Textbooks often end-up being secondary

Printing and photocopying

- Digital materials become usable in print
- For distribution to students
- For use as overheads
- Photocopiers aren't always working

PowerPoint?

- Little “traditional” use of PowerPoint
- PPT as a container
- Some student use of PPT

Poor technology in schools

- Aging technology installed in 90s
- Limited current funds for upgrading
- Firewalls and filters often preclude common searches
- Projectors are generally unavailable

Not enough computers in schools

- Few, older computers in classrooms
- Schools lack adequate support and maintenance
- The need to schedule labs adds layers of complexity to teaching

Analysis

- Teachers (and researchers) begin with questions
- Teaching is improvised, finding materials is not
- Curation: distillation and informed selection matter
- Modular collections of stuff (Ikea, not Lego)
- *Usable* Design and Presentation
- Collections need Introductions and Context

More...

More Analysis

- Printing rules (still)
- Teachers remain busy
- The *Wired Classroom* remains elusive
- Little organized sharing of materials among teachers

Teachers (and researchers) begin with questions

- Questions narrow the scope
- Teachers know what they have to teach; they're not worried about standards
- Searching remains goal-oriented; teacher research and planning is purposeful

Teaching is improvised, finding materials is not

- Teachers select and prepare materials ahead of time based on plans
- Classroom activities – within the framework of a plan – are often improvised in response to students and situations

Curation: distillation and informed selection matter

- Information abundance is overwhelming
- Teachers prefer known web sites with reliable, trusted materials
- Teachers seek thematically significant, intellectually focused, and easy-to-use collections of materials

Modular collections of stuff (Ikea, not Lego)

- Teachers transform and adapt curricular materials
- This means materials must be easy to segment and move around

Usable design and presentation

- Clear, simple design works best
- Guide users with essential information
- Less is more; elegant is not shallow
- Include print-friendly (format, grayscale) and projector-friendly views

Collections need introductions and context

- To quickly assess usefulness and trustworthiness
- To effectively navigate within collection
- User wants to know: intent of collection, author of collection, source of information

Printing rules (still)

- For individual use
- For copying and distribution
- Adaptability: print-friendly, grayscale, projector views

Teachers remain busy

- Demands of teaching far exceed classroom hours
- Involving teachers in developing materials remains challenging
- Teacher involvement requires clear expectations and compensation
- Specialists important for this work

The *Wired Classroom* remains elusive

- Significant investment in technology for classroom has dried up
- Technologies now in place are aging
- Networks not always reliable
- Teachers must often prepare at home

Little organized sharing of materials among teachers

- Substantial sharing requires time and often an underlying personal connection
- School and departmental culture often deters sharing materials
- Ongoing sharing not likely in current school settings

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