Designing Age-Appropriate School Library Websites
Why, What, Whom, and How

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What makes a great school library website?

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Presentation Overview

- What have others done in the past? What specific questions are we trying to find out? (Literature Review)
- How have we gone about studying this question? (Method)
- What are our preliminary results?(Results)
- How can we use this information? (Discussion and Conclusions)

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Introduction

- Websites are the public face for most institutions
  - They represent the entry point for basic information about the organization
- "What makes a great school library website?"
  - What are website best practices?
  - Who uses school library websites?
  - Who are they designed for?
  - How do school library websites compare to recommended best practices?

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Literature Review

- Children and youth have different information seeking needs than adults (Cooper, 2005; Nielson, 2010)
- Three research trends have emerged
    - Cognitive
    - Affective
    - Design

Literature Review (2)

Cognitive

- Age Appropr...
  - o Amount o...
  - o Vocabula...
  - o Graphics
  - o Cues (Ros...
  - o Pictorial s...
  - o Icons to r...
  - o Games (N...

Affective

- Emotionally
- Minimize un
  and using cl
- Motivate th
  - Image (Coop
  - Sound (Coo
  - Interactivity
  - Personalizat
  - Play (Dubro
  - Open explor
  - Self-paced (

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Literature Review (4)

Design

- Child-centered approach (Bilal, 2002; Large, Beheshti, & Rahman, 2002; Large, Beheshti, Nesset, & Bowler, 2004)
- Control the pace and create own path (Cooper, 2005)
- Ability to leave a footprint (Bauman, 2009; Large et al., 2002; Dubroy, 2010)
- Simple layouts (Cooper, 2005; Nielson, 2002) containing:
  - Bright colors (Bilal & Kirby, 2002; Bilal, 2005; Dubroy, 2010; Large, Beheshti, & Rahman, 2002; Large, Beheshti, Nesset, & Bowler, 2004)
  - Site mascots (Bowler, 2004)
  - Creative icons (Bowler, 2004; Large et al., 2004)
  - Fun name (Large, Nessit, Beheshti and Bowler 2004)
  - Animation and graphics (Bowler, 2004; Large et al., 2002; Dubroy, 2010; Large et al., 2004; Nielsen, 2002)
  - Characterization (Bowler, 2004)
  - Logo in upper left corner (Nielsen, 2004; Nielsen, 2010)
  - Search box on homepage with keyword searching (Nielsen, 2004)
  - No splash page (Nielsen, 2004; Nielsen, 2010)
  - Horizontal breadcrumbs (if used) (Nielsen, 2004; Nielsen, 2010)

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- **Human Computer Interaction (HCI)**
  - Most programmers and engineers were not very effective at understanding how to design technology for the novice user
  - the design, evaluation, and implementation of interactive computing systems for human use
- **User-Centered Design (UCD)**
  - the practice of creating engaging, efficient user experiences
  - the human user as the starting point for designing effective technology solutions
- **Usability**
  - Effectiveness, Efficiency , and Satisfaction
  - Utility (relevance) and Ease-of-Use

Poole's principle of Least Effort!

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Research Questions

- RQ1: Who are school library websites designed for?

- RQ2: How do school library websites compare to recommended best practices?

- RQ3: How usable are school library websites?

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Method

- What's a typical school library website?
- Sampling
  - Random selection of one rural and one urban county for every state
  - Random selection of one elementary, middle, and high school per county
  - Total of 300 school libraries selected
  - Assessment of 173 completed
  - 34 school librarian surveys
- Rated each website on a ten point scale
 - Lowest (1)
  - Highest (10)

Method (2)

- **The School Usability Checklist** was used to collect data on the following items:
  - Site information
    - For identification purposes and general information
  - Cognitive features
    - (Bilal, 2002; Large, Behesthi, & Rahman, 2002; Large, Behesthi, Nesset, & Bowler, 2004; Cooper, 2005; Nielsen, 2002; Bilal & Kirby, 2002; Bilal, 2005; Dubroy, 2010; Large et. al., 2002; Large et. al., 2004; Rose, Rose, & Blodgett, 2009; Nielsen, 2010)
  - Affective features
    - (Bilal, 2005; Kuhlthau, 1991; Cooper, 2005; Teo, Oh, & Lui, 2003; Dubroy, 2010; Large et. al., 2002; Large et. al., 2004; Kuhlthau, 1993 in Bilal, 2005; NAEYC, 1997 in Bilal, 2005; Nielsen, 2010; Bauman, 2009)
  - Design
    - (Bilal, 2005; Cooper, 2005; Nielsen, 2004; Nielsen, 2010; Lavie & Tractinksy, 2004; Lavie, 2004 in Deng, 2010; Deng, 2010)
  - Feature placement
    - (Nielsen, 2010; Nielsen, 2002; Nielsen, 2004; Bilal, 2005; Dubroy, 2010; Teo et. al., 2003)
  - Content Checklist
    - What resources can be accessed through the website

Method (3)

- **School Librarian Website Survey**
  - Survey created to get input from the librarian
  - Asked who the site is designed for
    - Students, Parents, Teachers, or Administrators
  - Checklist for resources and services provided
    - Physical and electronic resources
    - Instruction or training
    - Place for socialization or group learning
  - Priority services and resources
    - Rank order the top five services and resources in the library's opinion
  - Primary utilization of their services and resources
    - Rank order the top five resources that are used
  - Site management
    - Who manages the site
    - Is there adequate funds for site management
    - Is there adequate training for site management

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Method (4)
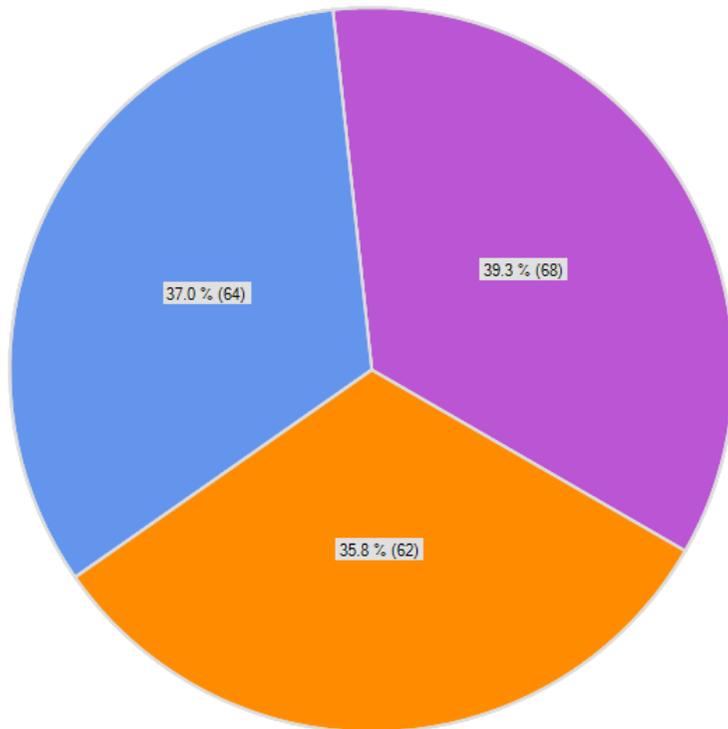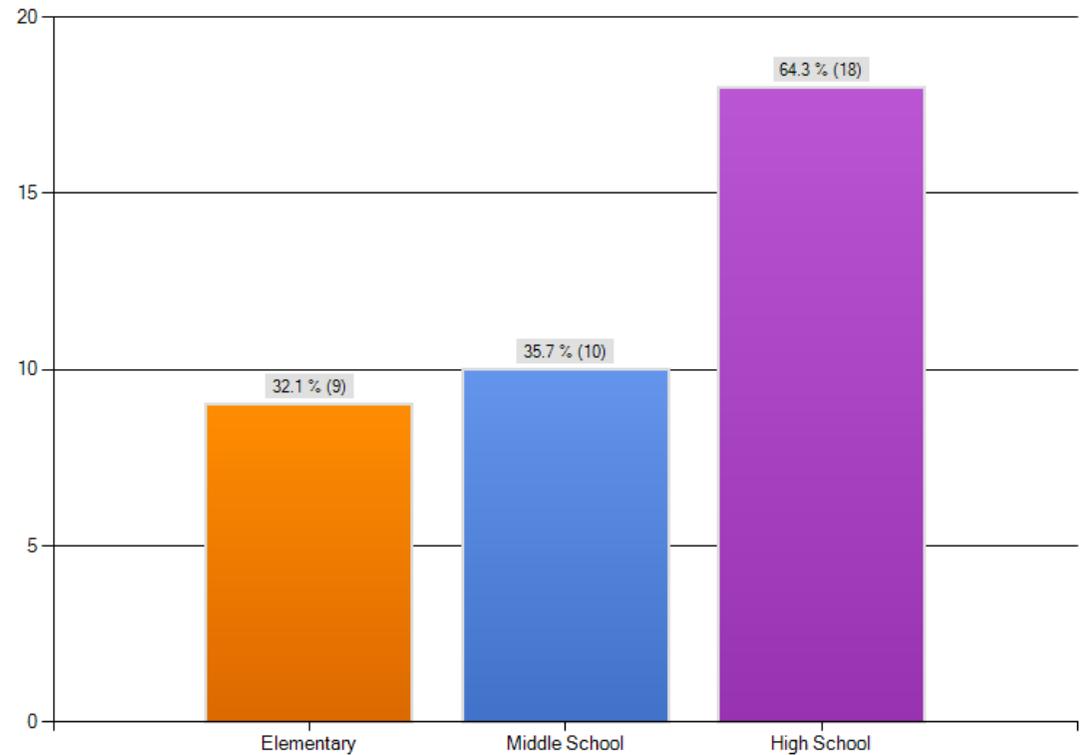
School Library Checklist Results

What is Being Done Well?

- Most school libraries do have websites (93%)
- Age appropriate graphics and vocabulary
  - o Average rating of 5.23 out of 10
- Access to OPAC (63%)
- Offer electronic resources and databases (69.3%)
- Contain information literacy resources
  - o Average rating of 4.6 out of 10

Does the school have a library website?

93.1 % (161)

6.9 % (12)

Yes
No

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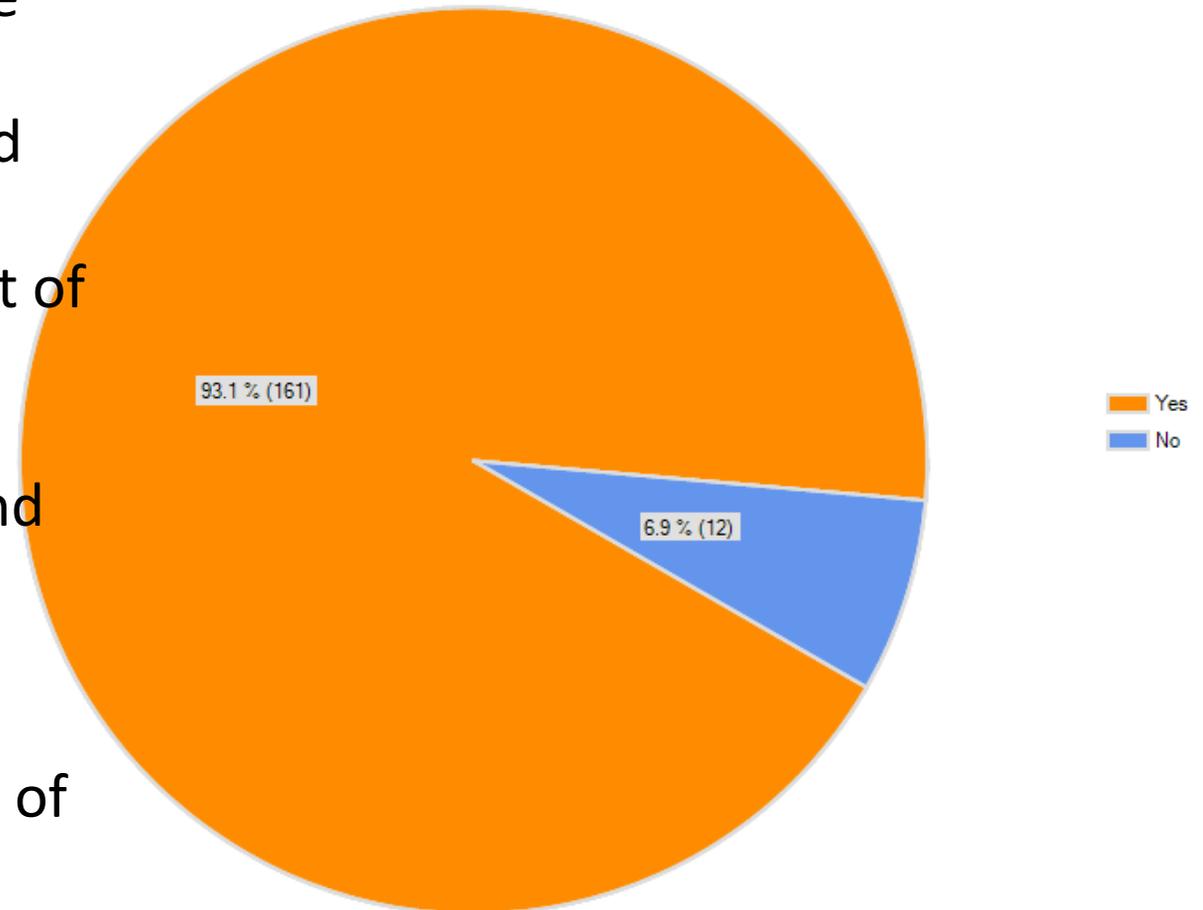
Results (2)

Web Factor	Avg.
Cognitive	2.57
Affective	2.68
Design	1.31

Factor	Avg.
Are graphics and vocabulary age-appropriate?	5.23
Is there a link to access electronic resources including databases, online reference, and e-books?	4.61
Does the site reduce cognitive load by limiting distracting information and presenting only the information desired in a prominent, singular fashion?	4.59
Does the website use symbols related to concrete objects?	3.50
Does the site use bright and engaging colors that attract attention and keep the youth interested?	3.29
Does the site have a well thought-out portal name?	2.94
Are there search tips or instructions for searching?	2.92
Can users enjoy themselves through play and learning?	2.86
Does the site use creative and significant icons?	2.81
Does the website's design encourage exploration (by being open-ended)?	2.31
Is the website design active?	1.71
Does the website balance familiarity with novelty?	1.71
Does the site offer quick feedback?	1.64
Does the website design emphasize user control?	1.59
Does the website allow for and respond to child input?	1.32
Does the site have a URL that's easy to remember?	1.31
Does the site use animation?	0.84
Can users leave their footprint on the site?	0.60
Does the site allow for trial-and-error with physical, not abstract, objects?	0.58
Does the site support social interaction?	0.55
Does the site allow for progressive levels of expertise facilitating competence while offering new challenges?	0.51
Does the website involve multiple senses?	0.41
Does the site use sound effects?	0.22

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What can you find?

Answer Options	Response Percent
Access information literacy resources	77.4%
Access databases	75.5%
Access an OPAC	61.6%
Find library hours	46.5%
Find book recommendations/reviews	45.9%
View library news and events	44.7%
View library policies (checkout, overdue policies, etc.)	40.3%
Access personal account	39.0%
View the library	39.0%
Receive help with research from a librarian	8.2%
Renew library materials	5.7%
Reserve a library resource online	4.4%
Schedule a classroom	2.5%
Sign-up for a class with the librarian	2.5%
Reserve technology	1.9%
Search for available hardware and software	0.6%

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School Library Websites designed for students

User	Avg.
Students	6.5
Teachers	5.8
Parents	4.9
Administration	4.4

To what extent is your school library web site designed for the following information seekers (1=lowest, 7=highest):
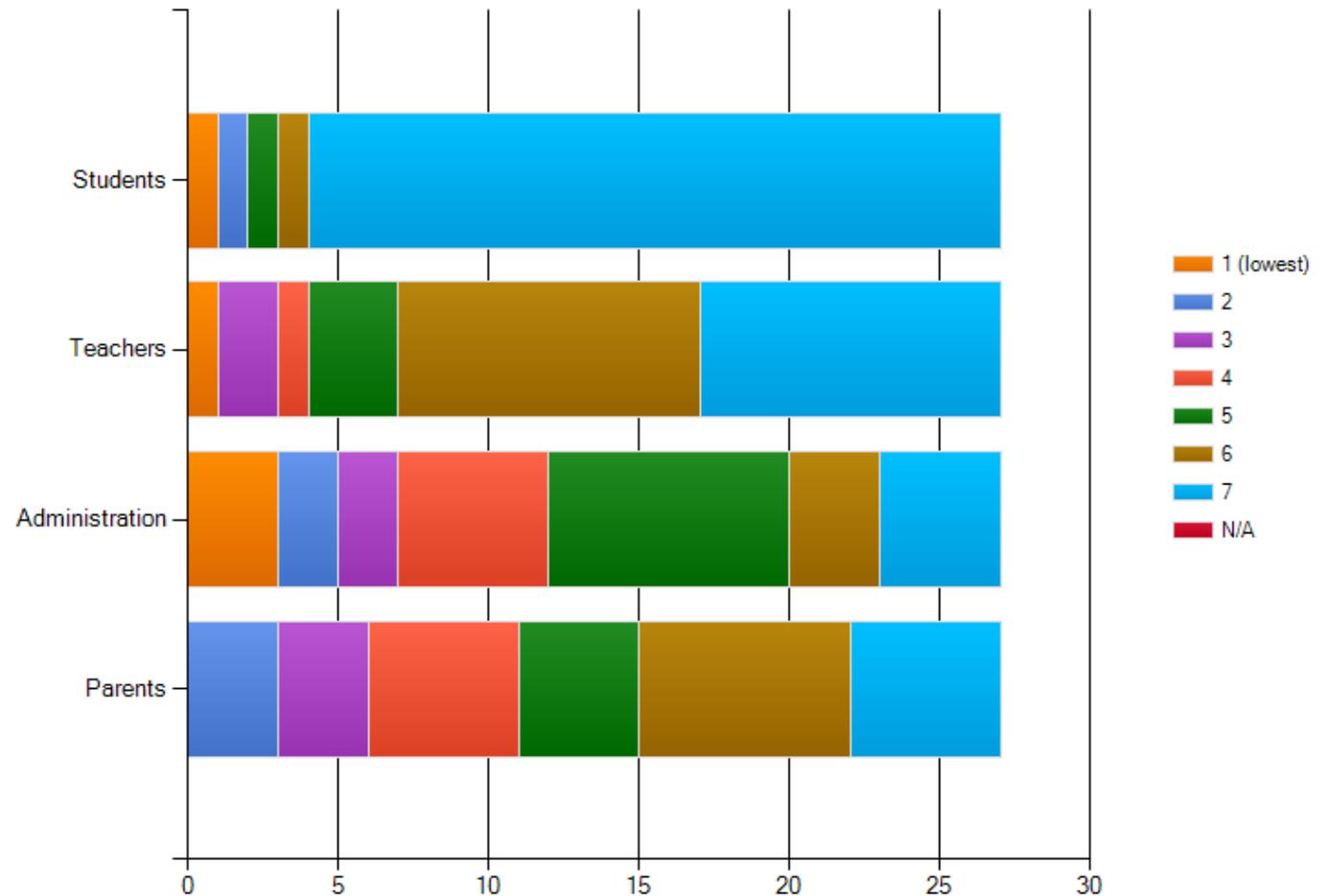
Results (4)

Library Services	%
Books, journals, and other print material	**100.00%**
Computers or other technology	96.30%
Instruction or training	92.60%
Online databases	92.60%
CDs or other media	85.20%
Studying	85.20%
Technology support	85.20%
Meeting space	85.20%
Testing	66.70%
Socializing	51.90%
Access to social media (i.e. MySpace, Facebook, YouTube, etc.)	18.50%
Access to gaming	7.40%

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Priority Services

Patrons	f
Books, journals, and other print material	25
Computers or other technology	23
Online databases	18
Instruction or training	16
Technology support	13
Studying	11
Meeting space	11
CDs or other media	6
Testing	5
Socializing	3
Access to social media (i.e. MySpace, Facebook, YouTube, etc.)	1
Access to gaming	0

School Library Priorities	f
Books, journals, and other print material	27
Computers or other technology	24
Instruction or training	21
Online databases	21
Technology support	15
CDs or other media	7
Studying	6
Socializing	4
Meeting space	4
Testing	3
Access to social media (i.e. MySpace, Facebook, YouTube, etc.)	1

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School Librarians Maintain Websites

In terms of managing website, who is primarily responsible for designing, developing, and updating content on the site?

Legend:
- School librarian — 81.5 % (22)
- School library assistant
- District/City IT staff/web developer — 14.8 % (4)
- School IT staff/web developer (other than the school librarian) — 7.4 % (2)
- Volunteer — 3.7 % (1)
- Students
- Consultant

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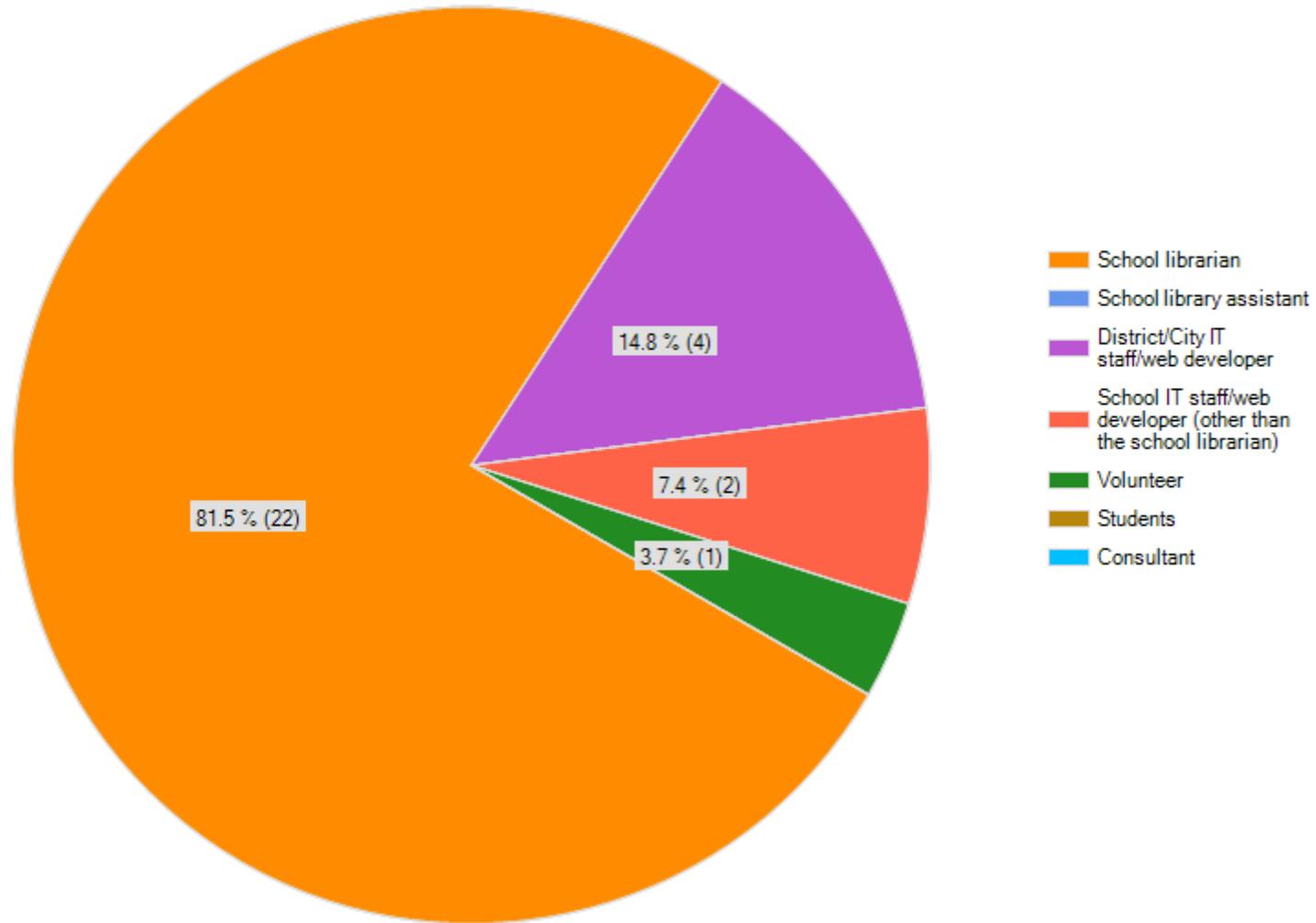
What have we learned?

- Random sampling suggests some validity in the "representativeness" of findings

- School library websites do not compare favorably to best practices for youth

- They appear to mostly represent links to information

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Answers to Research Questions

RQ1: Who are school library websites designed for?

Youth, Teachers, Parents, and Administrators

RQ2: How do school library websites compare to recommended best practices?

Not so well - Cognitive (2.6), Affective (2.7), and Design (1.3)

RQ3: How usable are school library websites?

Do not know until we ask users but… opportunities for improvement

Our Findings Lead to More Questions

- Many websites house good information, but most do not use the best practices in design for youth websites.
- Librarians may not have the resources to meet all of the needs.
- Should LIS programs educate future librarians about best practices when creating websites?
- Should Librarians participate in professional development workshops that teach these best practices?

Websites support and facilitate performance

Answer Options	Response Percent
Access information literacy resources	77.4%
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Access an OPAC	61.6%
Find library hours	46.5%
Find book recommendations/reviews	45.9%
View library news and events	44.7%
View library policies (checkout, overdue policies, etc.)	40.3%
Access personal account	39.0%
View the library	39.0%
Receive help with research from a librarian	8.2%
Renew library materials	5.7%
Reserve a library resource online	4.4%
Schedule a classroom	2.5%
Sign-up for a class with the librarian	2.5%
Reserve technology	1.9%
Search for available hardware and software	0.6%

School Library Priorities	f
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Technology support	15
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Studying	6
Socializing	4
Meeting space	4
Testing	3
Access to social media (i.e. MySpace, Facebook, YouTube, etc.)	1

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Saying to design by

Web users spend most of their time on other sites! (Nielsen)

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Preliminary School Library Design Guidelines

Logo	Website Title

Home	About	Collection	Technology	Instruction	Databases	Search

School Library Priorities	f
Books, journals, and other print material	27
Computers or other technology	24
Instruction or training	21
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Nationwide research on library websites suggest this common layout

Contact Information

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Preliminary School Library Design Guidelines

| Logo | Website Title | | | | |

| Home | About | Collection | Technology | Instruction | Databases | Search |

| What the site is about | Collection | Technology | Instruction | News and Events |

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Follow Pervasive Usability DDE Model

Pervasive Usability DDE Model

EVALUATE — Full Usability Evaluation

DEVELOP — Interface design, Usability tests

DESIGN — Requirements, Feature Checklists, Information Architecture
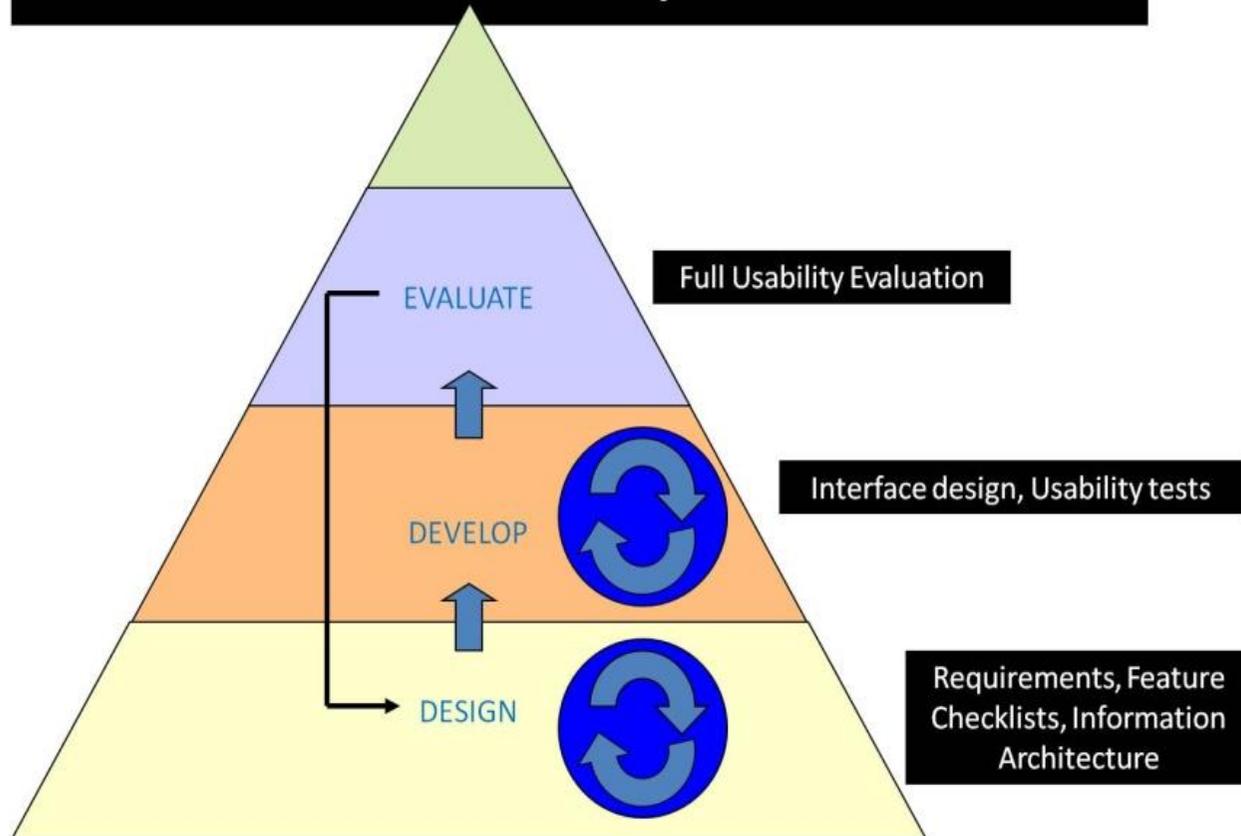
Usability must be pervasive from start to finish and it is a continuous loop.

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What if I just don't have time?

Who Manages Your Website?
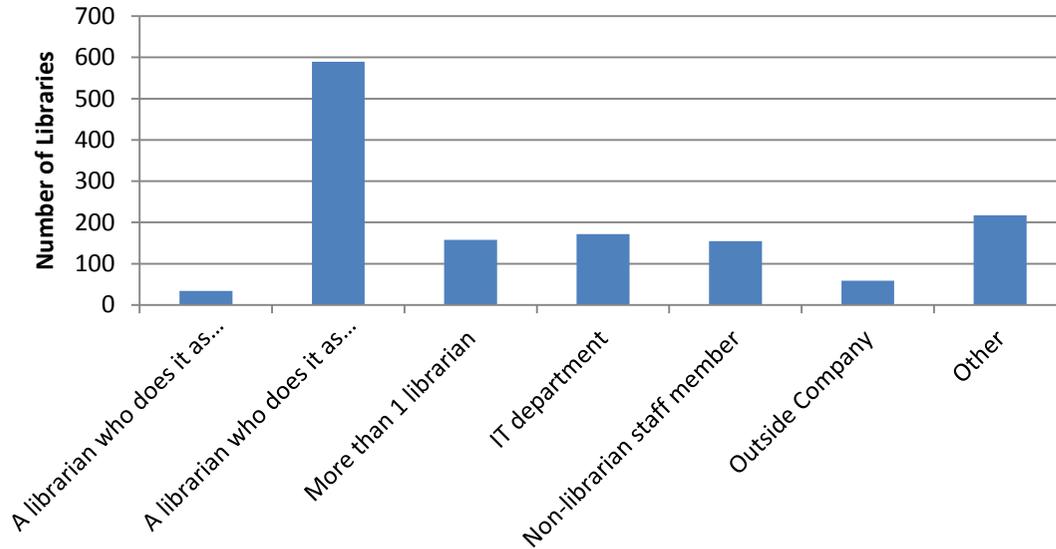
In the information age building websites is now part of the job....

In terms of managing website, who is primarily responsible for designing, developing, and updating content on the site?

- School librarian
- School library assistant
- District/City IT staff/web developer
- School IT staff/web developer (other than the school librarian)
- Volunteer
- Students
- Consultant

81.5 % (22)
14.8 % (4)
7.4 % (2)
3.7 % (1)

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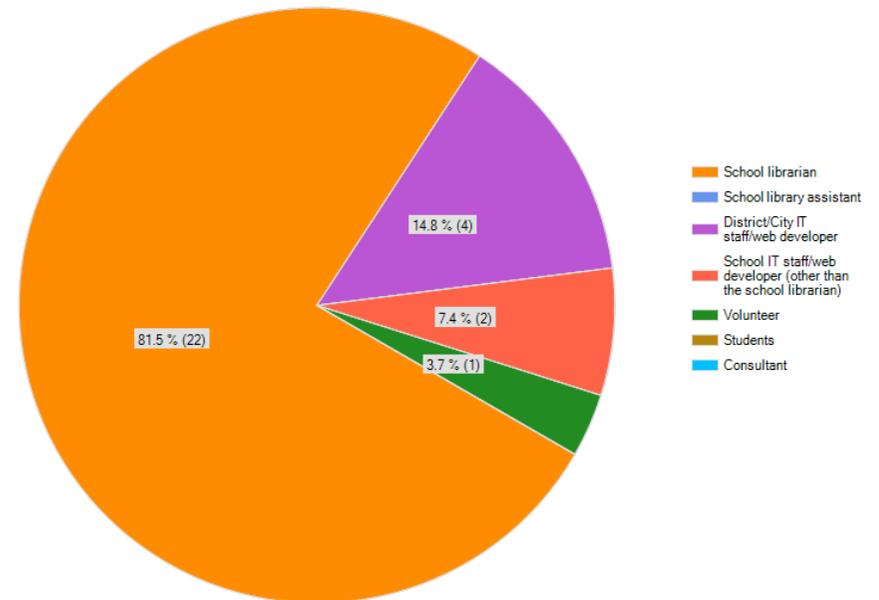
Four Step Process

1. Identify User Needs

Create a feature checklist

Students	Teachers	Parents	Admin.
Priority 1	Priority 1	Priority 1	Priority 1
Priority 2	Priority 2	Priority 2	Priority 2
Priority 3	Priority 3	Priority 3	Priority 3
Priority 4	Priority 4	Priority 4	Priority 4
Priority 5	Priority 5	Priority 5	Priority 5

Recruit one or two users from each group to serve as "design partners" – advisory committee.

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2. Create an information architecture

```
                    ┌──────────┐
                    │   Home   │
                    └─────┬────┘
        ┌───────────┬─────┼─────┬──────────┐
   ┌────┴───┐ ┌─────┴────┐ ┌────┴─────┐ ┌──┴────────┐ ┌─────┴────┐
   │ About  │ │Collection│ │Technology│ │Instruction│ │Databases │
   └────────┘ └──────────┘ └──────────┘ └───────────┘ └──────────┘
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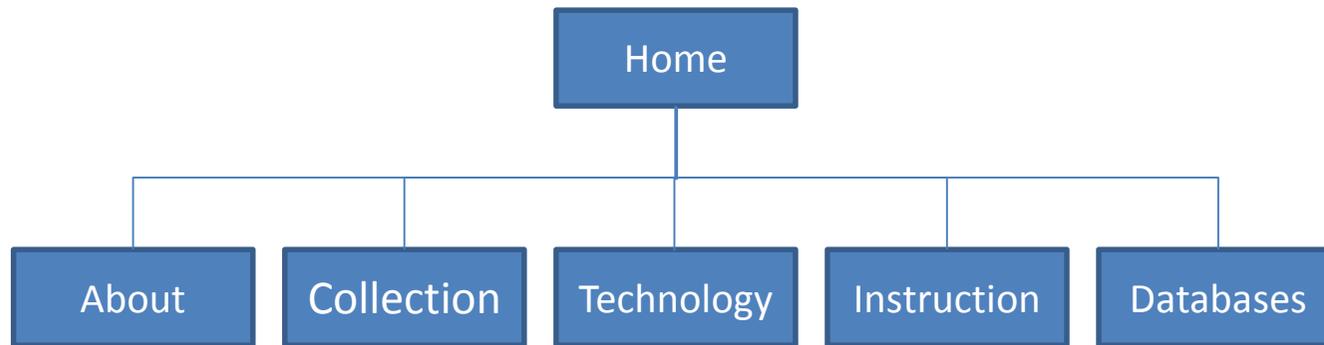
Compare with your feature checklist and identified priority areas.

Students	Teachers	Parents	Admin.
Priority 1	Priority 1	Priority 1	Priority 1
Priority 2	Priority 2	Priority 2	Priority 2
Priority 3	Priority 3	Priority 3	Priority 3
Priority 4	Priority 4	Priority 4	Priority 4
Priority 5	Priority 5	Priority 5	Priority 5

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Meeting space	4
Testing	3
Access to social media (i.e. MySpace, Facebook, YouTube, etc.)	1

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3. Create a wireframe mockup

Choose a website you already like the look and feel of…

Logo	Website Title	

Home	About	Collection	Technology	Instruction	Databases	Search

What the site is about

Collection

Technology

Instruction

News and Events

Gather feedback from your advisory group….

Contact Information

4. Develop it

1. Use existing web site software from district
2. Use [Wordpress](#), [Googlesites](#), [Wetpaint](#)
3. Use Web editors like [Sea Monkey](#) and Dreamweaver

Final Thoughts

- By using the best practices, librarians can ensure that users in general are motivated to use the library website and its resources
- Including users in general and children specifically in the website designing process will allow for a child's perspective to directly influence the website designed (Bilal, 2002; Large, Beheshti, & Rahman, 2002; Large, Beheshti, Nesset, & Bowler, 2004).
- Remember users spend most of their time on other sites so design for consistency and existing expectations.
- Websites can be used to increase understanding of how best to use the school library as well….

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Q & A

- Q & A
- THANK YOU!!

References

- Download presentation and references at:

  anthonyschow.wordpress.com