Building a better learner
Millennials Information Behaviors

Stephen Abram, SirsiDynix
Australia School Libraries Association Conference
Oct. 3, 2007
What future was our promise?
Cover this box with art.
Cover this box with art.
What future is their promise? Are we preparing them for the world of their future or our past?
2000 Light Stopped
2001 Light Slowed to Bicycle Speed
2002 Light Sent into Future

THE TIME MACHINE
Jump-Start the Future.

Mr. Time Machine
transports you... back to the past
2003 Light Transported
2006 Light Goes Backwards

Boyd's team collected data showing light traveling 'backwards,' seemingly faster than light speed.

Image credit: Univ. of Rochester

Romulan cloaking Devices at Duke U.
Trends

- US national debt increases (affecting every economy)
- Gas price increases in US messes biggest consumer economy
- Google (Search, Ads, & Apps) Dominance
- Global Change (China, India, EMEA)
- Generations turtle driving user behaviour changes
- Mergers (Reuters, Dow Jones, Gale, MS Yahoo!, etc.) increase in information sector
- New standards (XML, JSR168, etc.) drive portalization and personalization of the web
- New social competitors emerge to search engines
Pew 2020 Predictions

- Very low cost, ubiquitous and fast global network
Google invests in wired …
Bidirectional wireless module

Hydro Broadband
Pew 2020 Predictions

- Very low cost, ubiquitous and fast global network
- Humans remain in charge of technology in the near term but automated “smart agents” will proliferate
- Virtual reality will be compelling enough to enhance worker productivity. Gartner predicts that by 2012 80% of Internet users will use an avatar.
- Technological addiction problems will arise
- Tech “refuseniks” will emerge as a cultural group
- Privacy will emerge in a more balanced way.
2020 Prediction from Peter Kaufman

- Over the next **13 years** an iPod size device will hold:
  - 1 year’s worth of **video** (8,760 hours) by **2012** (5 years from now)
  - ALL the commercial **music** ever created by **2015** (8 years), and
  - ALL the **content** ever created (in all media) by **2020** (13 years).

- This will drive a new global phase of large informational hubs on the web and massive aggregations of content and services.
- What does this Internet and personal device hybrid world look like?
Cover this box with art
Projectors the size of a sugar cube
Cover this box with art.
Cover this box with art.
Everything’s getting smaller
<table>
<thead>
<tr>
<th>What people are doing</th>
<th>Who participates (U.S. online users)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creators publish Web pages, write blogs, upload videos to sites like YouTube.</td>
<td>Young Teens 12 to 17</td>
</tr>
<tr>
<td>Critics comment on blogs and post ratings and reviews.</td>
<td>34%</td>
</tr>
<tr>
<td>Collectors use Really Simple Syndication (RSS) and tag Web pages to gather information.</td>
<td>24%</td>
</tr>
<tr>
<td>Joiners use social networking sites.</td>
<td>11%</td>
</tr>
<tr>
<td>Spectators read blogs, watch peer-generated videos, and listen to podcasts.</td>
<td>51%</td>
</tr>
<tr>
<td>Inactives are online but don’t yet participate in any form of social media.</td>
<td>49%</td>
</tr>
</tbody>
</table>

Data: Forrester Research
I love my customers
Suppose there’re 250,000 books. ... Or 25,000,000 in less than 4 years? How does that compare to your collections?

Articles and Chapters ... 99¢ rentals...
Cover this box with art.
Reading declines with age

In the past month have you…

- Read a book, not for school
  - 71% of 8-12 year olds
  - 57% of 13-21 year olds

- Played computer games
  - 86% of 8-12 year olds
  - 68% of 13-21 year olds
Cover this box with art.
Build in Format Agnosticity
Context is King, not Content.
Simple Collaboration

90%+ of people from ages 15-25 have at least one IM account vs. only 5% of over 30’s

MSN Messenger
AOL Instant Messenger
Yahoo! Messenger
ICQ
Meebo and Trillian
IM: Instant Messaging

- Thomas Ford Memorial Library – 50%!
- Pennsylvania State University IM pilots now 28 site campus-wide
- SirsiDynix Docutek VRLPlus K-12 experience in New Zealand
“Web 2.0 generally refers to a second generation of services available on the WWW that lets people **collaborate** and **share** information online.” Wikipedia

- Shared Pictures = [flickr](http://www.flickr.com)
- Shared Knowledge = [Wikipedia](http://www.wikipedia.org)
- Shared Bookmarks = [del.icio.us](http://www.del.icio.us)
- Shared News = [Technorati](http://www.technorati.com)
- Shared Videos = [YouTube](http://www.youtube.com)
- Shared Everything = [Myspace](http://www.myspace.com)
# LIBRARY 2.0 MATRIX

## Resource Environment
**Library 2.0 user**

- Library catalogue - MARC compliant
- **Web 2.0 platform 24/7**
  - adaptable user interface
- **Information services**
  - Online, Virtual Learning spaces
- **Blended digital Web Collections**
- **Blended digital repository**
- **Digital access for personal organisation**
  - E-reserve
  - Borrower loan access
- **Digital access for licensed collections**
  - e-books, videos & multimedia, images, learning objects, etc.
  - specialist online databases
- **Federated searching**
  - Z39.50
- **Taxonomy** - supported by global metadata standards

## Web 2.0 as Platform
**Library 2.0 user**

- **E-learning 2.0 environment**
  - LMS, ELGG, LAMS etc.
- **Social Networks**
  - MySpace/Facebook
  - Blogs & Wikis
  - Read/Write web functionality
  - Social Bookmarking
  - Images & multimedia sharing
  - Podcasting & vodcasting
- **Folksonomy**
  - Tagging for personalisation
- **Searching**
  - Browser and desktop API
  - Blogs & social networks
  - Visual & metasearch engines
- **Mobile computing**
- **RSS feeds and Mashups**

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[Link](http://heyjude.wordpress.com/2006/09/01/music-inspires-library-20-matrix/)
Top 13 2.0 Apps for Librarians

1. Google Suite
2. Meebo/Chatango
4. Worldcat.org
5. Amazon.com
6. Del.icio.us
7. Bloglines
8. Zotero
9. Facebook
10. Wordpress
11. MediaWiki
12. Ning
13. Twitter

All FREE
CHANGED PRIORITIES AHEAD
Play!
Research and Insights

- Kent State U study of K-12 learners
- Huntsville Madison usability study
- Personas work
- Normative Data Project
- Visualization and Facets
- UCD User-centered Design
- Etc.
The Millennials/Gen Y/Echo Boomers

- Who are they?
- What are their values?
- How do they obtain information?
- How do they communicate?
- How do we communicate with them?
Jeremy, would you like a piece of pie?

Not now, Mom.

I have a bunch of research to do for a history paper that's due tomorrow.

Ah, research! When I think of the hours I spent at the library when I was your age, I finished!

Wait... you went to a library??
The Scary re-wiring of the Millennials and post-Millennials
Cover this box with art.
Eye Tracking Studies
Our Gaming Foundations
EverQuest / WoW – Their Gaming
# Millennial Characteristics

<table>
<thead>
<tr>
<th>Principle / Values</th>
<th>More Friends</th>
<th>More Diverse</th>
<th>Respect Intelligence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimistic / Positive</td>
<td>Internet Natives</td>
<td>More Choices</td>
<td>Format Agnostic</td>
</tr>
<tr>
<td>Balanced Lives</td>
<td>Adaptive / Flexible</td>
<td>Civic Minded</td>
<td>High Expectations</td>
</tr>
<tr>
<td>Collaborative</td>
<td>Nomadic</td>
<td>Gamers</td>
<td>Experiential</td>
</tr>
<tr>
<td>Independent</td>
<td>Confident</td>
<td>Direct</td>
<td>More Liberal &amp; Conservative!</td>
</tr>
<tr>
<td>Multi-taskers</td>
<td>Inclusive</td>
<td>Patriotic</td>
<td>Entrepreneurial</td>
</tr>
<tr>
<td>Healthy Lifestyle</td>
<td>Family Oriented</td>
<td>Graphical</td>
<td>Achievement Oriented</td>
</tr>
</tbody>
</table>

Credit: Richard Sweeney, NJIT
Information Engagement Levels

- **Read/View**
- **Argue/Defend**
- **Present/Teach**
- **Stimulate/Live**

*Dr. Thomas Davenport*
Learning Styles

- Visual/Spatial (Picture Smart)
- Verbal/Linguistic (Word Smart)
- Musical/Rhythmic (Music Smart)
- Logical/Mathematical (Number Smart)
- Bodily/Kinesthetic (Body Smart)
- Interpersonal (People Smart)
- Intrapersonal (Self Smart)

– Piaget, Bloom, Gardner, etc.
Information Literacy

- Standard Curriculum Components
  - Mathematics / Arithmetic
  - Science, Biology, Physics & Chemistry
  - English, Languages
  - History, Geography, Politics, Sociology
  - Music, Art, Phys ed.
  - Guidance, Religion
Information Literacy

- Information literacy is integrally tied every aspect of the curriculum:
  - Mathematical logical thinking skills - Math and Arithmetic
  - Scientific method - Sciences
  - Criticism, interpretation and comprehension - English and languages
  - Analytical thinking - History, Geography
  - Interpretive and imaginative - music, art & phys ed.
  - Inter and Intrapersonal skills - Religion, Guidance, etc.

There is an imperative for people to have a lifelong curriculum - a personal learning strategy

K-12 Information Literacy Rubrics
Reminder: 200,000-350,000 A DAY!
A sustainable social network for life.

F8 Developers: Libraries have their OPAC in FB now.

Over 85% of all college and University students in North America.
Join Teens from all over the globe in Teen Second Life - a 3D virtual world created by you and for you. Create, learn new skills, start a business, meet new people -- it's your world, your imagination.

Hang out with your friends at the Coffee Spot in Teen Second Life!
Teen SL Library services meeting, 5/7/06
Cover this box with art

5,000 Library visits every night!
Reading is virtually fundamental in SL

By KATT KONGO
Staff writer

While most Second Life residents are aware of the variety of ways in which SL is used, from educational classrooms to treatment of mental illnesses, most would be surprised to learn that SL is now being used by an institution most think of as conventional — a library.

To be more exact, the Alliance Library System (ALS) is currently providing select services to the residents of SL. Initial services have, so far, consisted of book discussions and programs, such as one held Friday on the topic of “Getting Along with IT stuff for Librarians and Educators.”

ALS, which is based in East Peoria, Ill., will team up with Online Programming for All Libraries (OPAL) and utilize the programs, currently offered online to librarians and libraries, within SL. The two entities eventually hope to offer a platform of library services.

In a telephone interview, Kitty Pope, executive director for the ALS, said the goal of their programs within SL is to reach people who might not otherwise go to a library. In giving background information about the ALS, Pope said the organization provides services to 285 libraries and is partially funded by the state of Illinois.

She added that ALS is one of the most innovative organizations, technologically speaking, and their philosophy is to mine new technologies to spread the gospel of library usage. “Innovation equals risk, innovation equals growth,” she stated.

Lori Ball, the ALS’s director of innovation, read about SL in the blog of a librarian who was already a resident. She created an account, logged on with her avatar, Lovelie Limot, and saw a population of almost 200,000.

She found that SL had a few libraries, such as Wandering Yaffle’s BlackLibrary, but thought that library services could be expanded. “Since there is web programming through OPAL, why not offer that in SL?” she said.

Librarians from all over the country are gathering in SL to assist in setting up the virtual library. In fact, Pope expected criticism from many library blogs, but instead has found those in the field to be immensely excited about the possibilities afforded by SL.

Ball concurred, saying, “The response has been enthusiastic. People are volunteering and doing a

See BOOK, Page 20
Cover this box with art

Earth Science Room: The Amazing Sun
- corona - the sun’s atmosphere
- photosphere - the light-producing layer
- core - where the nuclear fusion of helium and hydrogen takes place
- sunspot - dark patch that makes cooler gases

Explore a new learning portal for the K-12 community

SchoolRooms™ by SirsiDynix is a new online portal that encourages K-12 students to explore, discover, and learn anywhere, anytime.

Designed to meet students’ needs and be a tool for parents who play an integral role in helping their children continue learning outside the classroom.

Using SchoolRooms, students can search (all at once):

Best of Web™
Results from high-quality, certified Web sites hand-picked by teachers and librarians. Search databases at the same time and find related articles. Learn more about BOW. Explore More.

News & Events
Catch up on the news about SchoolRooms. Check out the next place you can see SchoolRooms in action and find out more about how SchoolRooms can provide your students with an unparalleled learning experience. Discover More.

Case Study: Boston Public
Discover how Boston
What Are School Rooms?

Welcome to School Rooms, an educational resource for K-12 students, educators and parents that combines teacher-selected, standards-based content with student-friendly software. Through the integration of multi-media and interactive content, School Rooms help promote student exploration and discovery on a variety of topics.

- Elementary Student Rooms
- Middle School Student Rooms
- High School Student Rooms

Room Contributors

**Elementary Contributors**
1. Tim DeFrange
2. Laurie Simms
3. Barbara Gage

**Middle School Contributors**
1. Jennifer Schwebelk
2. Shelly Lewis
3. Kristen Roppe
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What they do online

Send or receive e-mail 56%
Chat with people 53%
Help on homework 51%
Just surf the net 45%
Play online games 42%
Sample/listen to music 35%
Download music/audio 35%
Get info for purchases 34%
IM-ing/buddy lists 29%
Get info on hobbies 25%

*RoperASW Youth Report 2004*
Media/technology/entertainment options

- Web surfing
- Cell phones and text messaging
- DVD players and burners
- MP3s, JPEGs, digital cameras
- Videogames
- Online gaming
- Streaming video
- Podcasting
- TiVo

…and more
New behaviours

- Multi-tasking
- Split screens and crawls
- IM-ing and blogging
- Ad avoidance
- Information Density
Multi-tasking when online

When you are online, what else do you typically do at the same time?

- Eat: 58%
- Listen to CDs/MP3s: 53%
- Talk on the phone: 40%
- Watch TV: 39%
- Listen to the radio: 33%
- Do homework: 24%
- Read: 15%
- Nothing: 5%
Visual fragmentation

- Split screens, crawls, Flash, etc. are expected in videos, TV, Web sites, movies, and video games – it’s “normal”
- In magazines Millennials prefer one-spread layouts, concise copy blocks, “information chunks”
- Print integration with Web sitelets is efficient and expected
JEREMY, YOUR FATHER
AND I ARE CONCERNED.

127 INSTANT
MESSAGE
BUDDIES
We don't see you hanging out with your friends much anymore.

14 simultaneous conversations.
SO WE JUST WANT TO KNOW...

128 NEW E-MAIL MESSAGES
...is there a problem?

Yeah.
Not enough time.
“You have to sit by the side of a river a very long time before a roast duck will fly into your mouth.”

— Guy Kawasaki
Thank you

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