Growing Up Past Your Google Years

Generation Shift Happens: Building the Library they need for their Future

Stephen Abram, MLS
Micromedia ProQuest

All PPT slides will be available next week at http://www.micromedia.ca
Small Disclaimer
2000 Light Stopped

Anthony De Longis - playing to our camera in full "Force"
2001 Light Sent into Future

The Time Machine

Mr. Time Machine transports you... back to the past
2002 Light Slowed to Bicycle Speed
2003 Light Transported
Finding Our Future

New Generations: Who Are All These People?
Didn’t we help create these folks?
A few early indicators

- Michigan State U study shows that children introduced to the Internet at home improved their grades and performed better on standardized reading tests. (Globe & Mail, Aug. 4, 2003)
Many studies show that the key (perhaps only major) influence on children’s performance on standardized tests is having a quality school library program.

http://www.micromedia.ca/PDFs/HaycockACP2_v2.pdf
So what’s the evidence, actually?

- 78% of middle and high school students in the U.S. use the Internet . . . This rises to 100% in college.”

- “U.S. Educators are Not Net-savvy.”

Pew Internet and American Life 2002
So what’s the evidence, actually?

A Pew Study indicates that 86% of US college students use the Internet for course work.”

Pew Internet and American Life Oct. 2002
So what’s the evidence, actually?

- “Teenagers in Canada average 2.4 hours per week conducting online research for school” [girls 2.9, boys 2.0!!]

- IPSOS Reid NPD Sept. 2002
So what’s the evidence, actually?

“56% of Canadian teenagers go online to research for science classes, while 42% conduct online research for social science classes and 36% for English projects.”

IPSOS Reid NPD Sept. 2002
So what’s the evidence, actually?

“Teenagers generally believe that educators don’t know how or aren’t able to use the online tools to help them enrich their studies.” “Students rated the quality of Internet-based assignments as low.”

Heller Reports - EdNet Aug. 2002
I got an opinion too!

- In short - they want their information experience to be like their other effective learning experiences - engaging and relevant.

- Is the generational digital divide just another term for Generation Gap?

  - Me
A few early indicators

- Students have changed their information seeking and usage behaviors. They are using more, seeking more and exploring more.

3 Important Early Studies

OCLC’s “White Paper on the Information Habits of College Students”
(www.oclc.org)

“The Digital Disconnect: The Widening Gap Between Internet-Savvy Students and Their Schools” (Pew Internet and American Life - www.pewinternet.org)

“Dimensions and Use of the Scholarly Information Environment”
(CLIR/DLF/Outsell - www.clir.org)

Full webliography at www.micromedia.ca
NextGens and X’rs

They’ve been taught to learn differently.

It’s not the way we learn.
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
Information Literacy

- Information selection and integration skills
- Information organization (micro and macro) skills - taxonomies and ontologies
- Interface selection and design combined with training skills
- Searching, finding and usage (analysis, packaging, reporting) skills
- High level information literacy skills (added to numeracy, critical thinking, analytical, etc.)
# Taking The Knowledge Positioning

<table>
<thead>
<tr>
<th>Data</th>
<th>Information</th>
<th>Knowledge</th>
<th>Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Apply Standards</td>
<td>• Display</td>
<td>• Knowing</td>
<td>• Do</td>
</tr>
<tr>
<td>• Store &amp; Move</td>
<td>• Chart</td>
<td>• Learning</td>
<td>• Decide</td>
</tr>
<tr>
<td></td>
<td>• Graph</td>
<td>• Filtering</td>
<td>• Choose</td>
</tr>
<tr>
<td></td>
<td>• Publish</td>
<td>• Evaluating</td>
<td>• Apply</td>
</tr>
<tr>
<td></td>
<td>• Picture</td>
<td></td>
<td>• Enact</td>
</tr>
<tr>
<td></td>
<td>• Format</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Gerunds**

- Action Verbs
Information Engagement Levels

Dr. Thomas Davenport
Intelligence and 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.
Personality and Searching

“Five personality dimensions and their influence on information behaviour”

Jannica Heinstrom, Abo Akademi University, Finland (Oct. 2003)

http://informationr.net/ir/9-1/paper165.html

Central Question: “How does personality influence searching behaviour?”
## Personality and Searching

<table>
<thead>
<tr>
<th>Dimension</th>
<th>High Level</th>
<th>Low Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>Sensitive, Nervous</td>
<td>Secure, confident</td>
</tr>
<tr>
<td></td>
<td>Outgoing, energetic</td>
<td>Shy, withdrawn</td>
</tr>
<tr>
<td></td>
<td>Inventive, curious</td>
<td>Cautious, conservative</td>
</tr>
<tr>
<td></td>
<td>Friendly, compassionate</td>
<td>Competitive, outspoken</td>
</tr>
<tr>
<td></td>
<td>Efficient, organized</td>
<td>Easy-going, careless</td>
</tr>
<tr>
<td>Extraversion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conscientiousness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sample Conclusions

- Neuroticism was related to preference for confirming information, concern over time spent on searching, difficulties with relevance judgement, and insecurity with database searching.
Extraversion was related to informal information retrieval as well as preference for thought provoking documents over documents which confirmed previous ideas.
Sample Conclusions

- Openness to experience was related to broad information seeking, incidental information acquisition, critical information judgement, preference of thought provoking documents instead of documents which confirmed previous results.

- Conservativeness was related to problems with relevance judgement and preference for confirming documents.
Competitiveness was related to lack of time being a barrier to information retrieval, problems with relevance judgement and competence in critical analysis of information. Low levels of agreeableness forms a base for sceptical and critical thinking.
Conscientiousness was related to preference for thought provoking documents instead of documents that confirmed previous ideas and use of effort in information seeking. Carelessness, on the other hand was related to problems with relevance judgement, feeling that lack of time was a barrier to information retrieval and preference for documents that confirm previous ideas.
NextGens and X’rs

They’ve been taught to learn and *explore* differently and their environment will be very different.

They’re more visually oriented (vs. text, numbers, lists)
Video Games, PC Gamers

The training field . . .
Goals, scaffolds and learning
Decision trees and Problem solving
PC Games

- Console
- CD-ROM
- PC based
- Video Games
- Web Games
- Phone Games
- PDA Games
PC Games

- 90% of US households
- 70% of college students
- More girls than boys in college
PC Games

- Quest
- Collaboration
- Avatar Creation
- Trivia, Word Games
- Riddles and Codes
- Simulations
- Entertainment
- Blog, chat, opinion
- Strategy, Collaboration
- Team skills
- Creativity, Research
- Testing
- Math, logic
- Scenario planning
- Cards, chess, solitaire
- Social skills
The success of our economies and our democracies being sustainable is tied to libraries preserving and ensuring physical and intellectual access to the rest.
It’s an *Information Ocean*, not a Highway.
It’s an “Exploration Space” not a collection space.
It’s a work space

- MS Office
- OCLC WorldCat & Google
- Amazon Search inside the Book
- Reuters, MS and Secure IM
- Factiva, Gale content in MS
- Link Resolvers and OpenURL
- Federated Search
It’s a Learning Space

- eLearning, e-reserve, e-coursepacks
- Recombinable learning objects
- Lesson Level Content
- SCORM, ADL, etc.
- OpenURL and durable, persistent linking
PlaceWare

Webex

Centra
Simplify These Interfaces
Visual Display

- Context
- Text independence
- Visible contextual taxonomies
- Learning Styles
Federated Searching

- MuseGlobal
- WebFeat
- ENCompass
- OCLC Site Search
- Auto-Graphics Agent
- SIRSI Single Search
- Innovative MetaFind
- etc.

OpenURL
NextGens and X’rs

They’ve been taught to explore differently.
They’re more visually oriented
(vs. text, numbers, lists)
Negators vs. Continuous Learners
NextGens and X’rs

They’re *nomadic*. They expect little distance between where they are physically and their needs.
Nomadic Use

- Wireless
- WiFi
- Wiringless
- VoiceSearch
- XML
Tablet Computer
Those damn kids . . .

Medium 8-17 year-olds would choose if they could only have one

<table>
<thead>
<tr>
<th>Medium</th>
<th>All Kids</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>33%</td>
<td>38%</td>
<td>28%</td>
</tr>
<tr>
<td>Television</td>
<td>26%</td>
<td>34%</td>
<td>17%</td>
</tr>
<tr>
<td>Telephone</td>
<td>21%</td>
<td>12%</td>
<td>31%</td>
</tr>
<tr>
<td>Radio</td>
<td>15%</td>
<td>12%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Source: Knowledge Networks/Statistical Research 2002
Simple Collaboration Tools

- MSN .NET Messenger
- AOL Internet Messenger
  - [http://www.aol.ca/aim/index_eng.adp](http://www.aol.ca/aim/index_eng.adp)
- ICQ
- Yahoo Messenger
- Trillian by Cerulean

85% of people from ages 15-25 have at least one IM account
Some librarians are averaging over 2000 hits a day on their blogs and some have their ‘name’ as the first hit in Google…
Discussion Lists

- Stumpers (Womb@’s)
- DigRef
- Etc.
Wikipedia is a multilingual project to create a complete and accurate free content encyclopedia. We started in January 2001 and are currently working on 177918 articles in the English version. Visit the help page and experiment in the sandbox to learn how you can edit any article right now.
Collaborative Digital Reference

- Virtual Reference Canada
- CDRS– Library of Congress
- TPL - Virtual Reference Desk
- OCLC QuestionPoint
- Durham PL
- Real-time live-chat, homework help service
- LSSI - Virtual Ref Desk
Welcome to Virtual Reference Canada

Virtual Reference Canada (VRC) is a free, bilingual and innovative network of libraries, information centres and research institutions that pride themselves on the delivery of professional reference services to all Canadians.

VRC is a uniquely Canadian service designed to extend the reach of local reference staff to encompass information resources and staff expertise available in other institutions throughout the country.

We invite you to explore our website to learn more about VRC, membership benefits and the role of virtual reference in providing information services.
A reference staff member will join you once you are connected.

You will be in a live chat session; please be patient as there is a time delay between the time you hit the send key and we receive your message.

Please note: You will be unable to connect to a virtual reference session connected if the Virtual Reference Desk is closed.
### Comparing IPS Stages and ACRL Competencies

<table>
<thead>
<tr>
<th>IPS Stages</th>
<th>ACRL Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Definition</td>
<td>Determine information need</td>
</tr>
<tr>
<td>Info-seeking strategies</td>
<td>Access information</td>
</tr>
<tr>
<td>Location &amp; Access</td>
<td>Evaluate &amp; incorporate information</td>
</tr>
<tr>
<td>Use of Information</td>
<td>Use information for specific purpose</td>
</tr>
<tr>
<td>Synthesis</td>
<td>Understand info. use, use ethically &amp; legally</td>
</tr>
<tr>
<td>Evaluation</td>
<td></td>
</tr>
</tbody>
</table>

Joanne Smyth & Patricia Johnston
Online and F2F Reference

Topics frequently addressed include:

- Task definition, problem definition
- Developing a search strategy
- Locating and accessing information

Joanne Smyth & Patricia Johnston
Topics rarely addressed include:

- Information use, analysis, incorporation
- Synthesis and application
- Evaluation

Joanne Smyth & Patricia Johnston
Welcome to NewMindsets

NewMindsets Inc. is an e-learning company providing online education and training resources in the field of leadership and management development.

Our award-winning e-learning system and content has been developed on the basis of market-tested analysis showing that the most powerful forms of learning and development take place when:

“Creating revolutionary e-learning experiences that drive individual success and organizational effectiveness.”

- The learner is in control of the e-learning process and can access relevant content where and when it is needed.
- The focus is on learning for improved performance, not on linear teaching or test-based compliance.
- Powerful learning experiences can occur in small increments as short as five to ten minutes.
Disposable phones
Use of this site is subject to express terms of use. By continuing past this page, you agree to abide by these terms.

Labs.google.com, Googie's technology playground.
Google labs showcases a few of our favorite ideas that aren't quite ready for prime time. Your feedback can help us improve them. Please play with these prototypes and send your comments directly to the Googlers who developed them.

These technologies are still in the beginning stages of development, so they may disappear without warning or perform erratically. If something's not working on this page, please come back and try it again later.

NEW! 1/6/03
Google Deskbar
Search using Google without opening your browser
Give us feedback - Discuss with others

NEW! 9/22/03
Search by Location
Restrict your search to a particular geographic area
Give us feedback - Discuss with others

Google News Alerts (8/4/03)
Specify a topic and receive email updates when news breaks
Give us feedback - Discuss with others

Google Compute (3/25/03)
Donate your computer's idle time to help scientific research
Give us feedback - Discuss with others

Google Viewer (12/10/02)
View search results as scrolling web page images
Give us feedback - Discuss with others

Google Webquotes (12/10/02)
View search results with quotes about them from other sites
Give us feedback - Discuss with others

Google Glossary (6/20/02)
Find definitions for words, phrases and acronyms
Now on Google.com!

Google Sets (5/20/02)
Automatically create sets of items from a few examples
Give us feedback - Discuss with others

Keyboard Shortcuts (6/20/02)
Navigate search results without using your mouse
Give us feedback - Discuss with others

Voice Search (6/20/02)
Search on Google by voice with a simple telephone call
Give us feedback - Discuss with others
NextGens and X’rs

They’re visual.
They expect search and display to find IN CONTEXT!
Read Don Beagle's articles
Cingo Meaning-Based Search

Refine the meaning of your search.

Narrow search to specific meanings?

To improve the results that appear below, you can try specifying the exact meanings of your search words here.

stock all possible meanings for stock

stock(asset)

stock certificate (legal document)

inventory (merchandise)

livestock (mammal)

Stocks and

84% Stocks and stock (food)

75% Stock and stock on hand (asset)

74% Investing stock (sport) cortest

73% Stocks and stock (group)

72% Stock Quote stock (support)

72% Stock Malls and Information Online stock (construction supplies) material

71% Small Cap Investment Newsletters blood line (genealogy) graphic design

71% American Depository Receipts (ADR)

71% Hedge Funds and Stock and Bond Investing

67% Stocks and Bonds Newsletters

Open Directory Text Hits

ISN Stockwatch

Stock oriented quote and research center. Complete with news links and real time index graphs, for up to date monitoring of the stock markets.

StockDetective

Learn about stock market fraud and current trading scams.

John Stock - RE/MAX

Supplies real estate services for Angola Indiana, Steuben County Indiana.
Information Moves –
static content is the
lowest form since
primeval data!
Streaming Video and Audio

- http://www.musicmatch.com
- http://www.kazaa.com
- http://www.quicktime.com
- http://www.real.com
- Microsoft Media Player
# Comedy

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Year</th>
<th>Length</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Admiral Wax A Lady, The</td>
<td>1960</td>
<td>86 min</td>
<td>Plus</td>
</tr>
<tr>
<td>2</td>
<td>Africa Screams</td>
<td>1949</td>
<td>79 min</td>
<td>Plus</td>
</tr>
<tr>
<td>3</td>
<td>American Drive-In</td>
<td>1965</td>
<td>94 min</td>
<td>Plus</td>
</tr>
<tr>
<td>4</td>
<td>Assault of the Killer Bimbos</td>
<td>1987</td>
<td>80 min</td>
<td>Plus</td>
</tr>
<tr>
<td>5</td>
<td>Bachelor of Hearts</td>
<td>1956</td>
<td>92 min</td>
<td>Free</td>
</tr>
<tr>
<td>6</td>
<td>Bad Man's River</td>
<td>1972</td>
<td>92 min</td>
<td>Plus</td>
</tr>
<tr>
<td>7</td>
<td>Behave Yourself</td>
<td>1951</td>
<td>80 min</td>
<td>Free</td>
</tr>
<tr>
<td>8</td>
<td>Bikini House Calls</td>
<td>1996</td>
<td>85 min</td>
<td>Plus</td>
</tr>
<tr>
<td>9</td>
<td>Bikini Med School</td>
<td>1996</td>
<td>82 min</td>
<td>Plus</td>
</tr>
<tr>
<td>10</td>
<td>Brief Affairs</td>
<td>1996</td>
<td>79 min</td>
<td>Plus</td>
</tr>
<tr>
<td>11</td>
<td>Broadway Limited</td>
<td>1941</td>
<td>75 min</td>
<td>Free</td>
</tr>
<tr>
<td>12</td>
<td>Colonel Effingham's Raid</td>
<td>1945</td>
<td>70 min</td>
<td>Free</td>
</tr>
</tbody>
</table>
LTU Technologies: Products List

Technology Overview:

- Image-Indexer 1.0
  - Image-based software for automatic indexing and classification of digital content.
  - More Information
  - Download the Product Sheet (PDF)

- Image-Seeker 3.1
  - Image-based software for visual search and navigation within large collections and databases.
  - More Information
  - Download the Product Sheet (PDF)

- Image-Filter 4.1
  - Image-based software for monitoring and regulating the flow of visual content.
  - More Information
  - Download the Product Sheet (PDF)

- Image-Watcher 1.0
  - Image-based software for detection and protection of the misappropriation or infringement of proprietary images or designs.
  - More Information
  - Download the Product Sheet (PDF)

- Video-Indexer 1.0
  - Image-based software for automatic indexing and segmentation of video content.

Explore integration examples - download our Case Studies

Index
Filter
Monitor
Segment
Seek and find
Dynamic, semantic, and automatic
NextGens and X’rs

They’re intimately familiar with electronic decision spaces.
NextGens and X’rs

They travel seamlessly between formats and don’t value text as highly as we do.
Zac’s Story
Finding Our Future

- They learn differently
- They’re nomadic
- They converse online with IM
- They’re visual learners
- They use all formats
- Games are a model for them
- They’re gonna be alright!
Solutions Worth Exploring

- Tiered and Tunable Interfaces
- Visual Displays in Interface
- OpenURL
- Personalization of interface and results
- Content diversity and integration
- Supporting Multitasking
- Mapping displays
- Information Literacy Curricula (OSLA www.accessola.com)
Balance and Fairness

The New Agenda

Mrs. James

bee ant tree

CLASS, TODAY'S LESSON ON SHARING HAS BEEN CANCELED. IT WILL BE REPLACED BY A LESSON CALLED "PROTECTING INTELLECTUAL PROPERTY."
Let’s Share Our Passion

- Work
- Profession
- Science
- Craft
- Art
- Talent
Context is King, not Content.
Thanks

Think Outside The Bun

Stephen Abram, MLS
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