Innovative information and communication systems for scientific libraries: 10 questions about practice and experience covering Web 2.0 to Emerging Technologies. An interview with Guus van den Brekel[1], information specialist for the medical library at Groningen University (Netherlands) by Bruno Bauer[2]

[1] Guus van den Brekel, Central Medical Library,
University Medical Center Groningen, Netherlands
[2] Bruno Bauer, Universitätsbibliothek der Medizinischen
Universität Wien, Österreich

Abstract

Guus van den Brekel is information specialist and IT-Coordinator for the Central Medical Library at the University Medical Center Groningen (Netherlands). There he is responsible for innovation and for the development of new library services. The present interview informs about the meaning and benefit of Web 2.0 and Emerging Technologies, about the advantage of Blogs and Twitter and the importance of mobile applications for libraries. Furthermore the interview deals with the future role of library.

Keywords

Emerging Technologies, Web 2.0, Library 2.0, Blog, Twitter, mobile application, data linking, library, library staff, library management, future.

****

1) WEB 2.0

B. Bauer: *Web 2.0 is now gradually present in many aspects of communication. What is the possible "added value" for academic and science libraries? What can Library 2.0 do? And what to expect from Web 3.0 or Library 3.0?*

G.v.d.Brekel: Web technology has changed the "concept of information" completely for everybody. But the actual awareness of these changes is distributing among librarians and our users in different speed and levels. Web 2.0 is connecting people with each other, allowing almost any information to be controlled, changed, shared and created

Staff and students are using web 2.0 without even knowing we librarians call it that way. The numbers into social networks are still growing. User-generated content and information is still exponentially growing. Students communicate and learn in a different way. They benefit from it in their personal life and nothing is more logical than to expect that they will, at some point, require the same functionality / facilities at their (future) work.

One of the thing we can do as librarians in scientific and research libraries is keeping track of these possibilities and be on the look-out for applied use within staff or student workflow.

Preparing, adapting and adjusting the library systems accordingly are a logical consequence. Finding & developing applied use to give our users maximum efficiency in searching, finding and managing information. I also see a direct role for librarians in applying this in information literacy, education and teaching as integrated part of life-long learning.

On Web 3.0 I'd like to quote *"Most of the Web's content today is designed for humans to read, not for computer programs to manipulate meaningfully."*
Berners-Lee, T, Hendler, J & Lassila, O 'The semantic web', Scientific American, May 2001
Web 2.0 prepared the web for the next logical step, the semantic web, the intelligent web, where "linked data" is currently a major topic on any library conference. A larger availability of machine-readable content and automated services is going to increase the effectiveness of semantic web software agents. Libraries should be working on this, together with major stakeholders in the organization, but also with content providers and build cooperative and collaborative projects with local, regional, national and perhaps in even international partnerships.

- Definition "Semantic Web":
  http://en.wikipedia.org/wiki/Semantic_Web

- The Semantic web / by Tim Beners-Lee, James Hendler and Ora Lassila:
  http://www.informatics-review.com/thoughts/semantic.html

- http://www.med.nyu.edu/research/pdf/mainim01-1484312.pdf

2) BLOGGING & TWITTER

B. Bauer*: Currently blogging and Twitter hold a very important place among the social software tools. While weblogs are already established relatively strong in libraries, Twitter in the library community is still more of an issue for Web 2.0 specialists. What are the reasons to use Twitter in libraries in addition to Weblogs?*

G.v.d.Brekel: Twitter is a communication channel embraced by million in the years after its launch in 2006.
I very much like the description by Phil Baumann to explain what it can do:
"Twitter's simplicity of functional design, speed of delivery and ability to connect two or more people around the world provides a powerful means of communication, idea-sharing and collaboration"
In his post he created an impressive list of 140 possible health care uses for Twitter.
I believe Twitter is removing even more borders than blogging did, opening up opportunities to reach out to or even build communities. According to Twitter there are currently over 250,000 applications built using the Twitter API. And to experience Twitter in full depth one should take a closer look into these applications-, mash-ups and tools that have been created.

One should not use the basic Twitter interface, but a multiplatform tool like Tweetdeck that offers a great range of functionality for managing and exploring twitter content, accounts, followers, groups, lists and more.

In my job, as medical information specialist with a focus on innovation, Twitter has given me a platform to keep up to date faster and easier. It has almost completely replaced my RSS-

feeds to follow news and blogs. It is amazing to experience the willingness of Twitter users, colleagues and experts all over the world, to help you out with questions and problems. Librarians can use Twitter as a fast and flexible helpdesk tool.

Twitter is opening a window to reach out, but also to be approached from practically any platform available, with a growing emphasis on all mobile devices.

- 140 health care uses for twitter:
     http://philbaumann.com/2009/01/16/140-health-care-uses-for-twitter/

- Tweetdeck:
     http://www.tweetdeck.com/

- Twitter Fan Wiki:
     http://twitter.pbworks.com/

3) DIVERSITY OF EMERGING TECHNOLOGIES

B. Bauer: *Important social software applications in addition to blog and Twitter are Facebook or other platforms, such as "Virtual Research Networks." Are library staff and employees – with their professional background - "committed" to deal with these technologies continuously and thoroughly, or is it sufficient to deal with these innovations only when there is no other urgent agenda - usually the library day-to-day stuff?*

G.v.d.Brekel: Change has become a stable factor in (information) technology. Change will keep happening and it looks to me that the pace in which technological developments take place is not really slowing down.

Libraries have to prepare themselves for this. To embed change inside an organization takes time, but also it also demands different abilities and new roles. Considerable effort has to go into control and support how this affects library staff. We should not wait until they got lost and de-motivated. Make a plan and embed innovative activities into it. I have seen a rise in new jobs like Emerging Tech or Innovation librarians.

As I stated before, the user encounters these emerging techs in personal activities and in workflow on the web. We must forget about the library being the sole source of needed information for clinicians, researchers or students. And therefore make sure that we gain a bigger role in the distribution of this knowledge and the possibilities of web 2.0 tools for greater efficiency workflow inside our organizations.

It will be a good thing to show libraries are experts in information management, and not just in the traditional way.

4) SELF-ORGANISATION IN WEB 2.0

B. Bauer: *The applied use of social software is constantly extended - and the more you are concerned with this, the more difficult it will be to be taking in the wealth of information generated from tools such as RSS feeds or Twitter. Many feel the speed of developments as a*

burden. What practical measures can be set to limit this and to increase the gain of information?

G.v.d.Brekel: Is the sheer size of the possibilities to find, manage, create, edit, share and communicate (scientific) information, or the speed of developments a good reason to give up on all of this?
We are information specialists, in medical information to be more specific, but the original concepts of information have changed, and we need to know & understand them to be able to keep serving our customers in their specific needs. I believe staff has to be able to explore and learn in a structural way. There are various ways to embed this inside a library organization.

Many have already tried the "23 Things" concept.
Derived versions for medical libraries have arisen and look very useful, but the success and effectiveness depends mainly on the level of embedding this exploring and learning AFTER these courses. A lot of other factors play a role in how this could be tackled, like the size of the library organization, financial (in)dependency, the level of integration , influence and collaboration within the bigger organization, the existing services and products.

I don't see any other way than to make up a long-term vision plan, evaluate existing services and systems, formulate new goals and extract carefully the effects that it will have on library staff in every facet. It takes re-designing the organization step-by-step to prepare staff and the library for a future of change.

- 23 Learning 2.0 Things:
      http://plcmcl2-things.blogspot.com/

- Cam23: Web 2.0 professional development program for the staff of the Medical Library of Cambridge University:
      http://23things-cammedlib.blogspot.com/

- Learning 2.0@Becker: Becker Medical Library's Learning 2.0 Project:
      http://beckerlibrary.net/L2/23-things

- Workshop: "New Technologies – Web 2.0 for libraries":
      http://web20spb.blogspot.com/

5) EMERGING TECHNOLOGIES

B. Bauer: *"Emerging Technologies "- this topic has more recently also reached the libraries. What does this term mean? Which facets of the emerging technologies will also be of interest to academic libraries?*

G.v.d.Brekel: The term "Emerging Technology" indicates that it has the possibility to grown, develop into a technology ready to be embraced and implemented in businesses and industry. When implemented and applied to industries successfully, latest technologies are called "Cutting-Edge" technology.

Even if we, as librarians, wanted to use, change or explore new technology in 1.0 age, it was not only technically not possible within the networked organization we were entrapped in, but also extremely hard to change or programming software, while web-based things did not even

exist.

This has completely changed. Web technologies allow easy building and customizing without programming skills. This offers librarians more power, independency and possibilities to explore and try out new technologies with more ease and practically no costs.

One of my sites that I regularly have a look at, to find new 2.0 tools is go2web20.net Besides the already mentioned linked data and semantic web, many very interesting developments are taking place. Recently I did a Workshop on Emerging technologies in Libraries at EAHIL 2010 in Lisbon, Portugal, focusing on several themes. In fact, any emerging technology that might be applied to any aspect within educational, research or patient care activities of universities and academic hospitals might be interesting for academic libraries. To name a few:

- Social networks for scientists and students
- Mobile technologies, including Augmented reality (Layar)
- Institutional repositories
- E-books & e-readers
- Personalization

For scientific libraries the challenge lies in, not only managing and storing large amounts of data, but in making the most of it with linked-data and semantic techniques to make library resources and scientific output more findable and visible for everybody.

- Workshop Emerging Technologies in Libraries:
  http://www.netvibes.com/emergingtechnologiesinlibraries#The_Course

- Book: Emerging Technologies for Academic Libraries in the Digital Age by LiLiLi, Georgia Southern University, USA:
  http://www.woodheadpublishing.com/en/book.aspx?bookID=1846&ChandosTitle=1

6) MOBILE LIBRARY TOOLS

B. Bauer: *An important issue for years now - especially for innovative libraries - is mobile applications. Initially PDAs and related software were leading, we now have the iPhone and iPad that have great potential in terms of market penetration and acceptance. Should Libraries respond in their services to follow this trend? And there are already libraries that are particularly innovative on this issue?*

G.v.d.Brekel: Libraries should always react on identified trends. They are however, often faced with the question how to react. In many cases developments and changes within libraries are not published in an optimal way. With current communication technologies and social networks like LinkedIn or Twitter a simple news item could start a useful discussion within your organization. More channels could be used in a structural way to get the needed input and opinions of our users. We are often too modest, not used taking the lead.

While the use and development of special mobile apps for libraries gets much attention, the development of dynamic optimized (library) websites for mobile devices is staying far behind. In my opinion, availability of Internet access on mobile devices will rapidly grow and the belonging prices will go down coming years, making the need for web apps and optimized websites more urgent.

But scientific libraries are often not separate bodies inside the organization. They often depend on other stakeholders on making institution-wide changes. Initiating or leading a mobile project inside the university the library would get extra points in the pr and marketing section.

A good example of this is the Ryerson University Library web app, initiated and created by the library to be adopted and expanded into a special web app for whole Ryerson University One does not need to have long studies, but clever trials and beta versions to try out new services or technologies.

As an example of innovative medical libraries on the use of iPads, I can only mention the Zweigbibliothek Medizin of the University of Munster where Dr. Oliver Obst and his staff are always alert on new technologies. They recently started offering iPads on loan for staff and students to explore the use within their study or work.

- Lending iPads from the Library:
    http://www.uni-muenster.de/ZBMed/aktuelles/2649
    http://medbib.klinikum.uni-muenster.de/wiki/IPadApps

- Library trailblazing: implementing a student-focused, university-wide mobile portal Graham McCarthy and Sally Wilson (Ryerson University) Video| Presentation Ryerson University Mobile Library:
    http://www.ryerson.ca/library/mobile/index.html

- New Mobile Web Site: Research Medical Library @ The University of Texas, MD Anderson Cancer Center:
    http://web.resourceshelf.com/go/resourceblog/59765

7) INFORMATION SPECIALIST 2010

B. Bauer: *You have had for years the role of a pioneer in the use of Web 2.0 and Emerging Technologies to libraries, and because of that even been elected as winner of the Dutch Audience Price 2010 Information specialist of the year. Do you embody the image of a modern librarian who appears innovative and forward-looking? What agendas and projects are you running in your professional life? To what extent do you use Web 2.0 applications in your spare time for your personal life?*

G.v.d.Brekel: In my position as Coordinator of Electronic Services of the Central Medical Library of the University Medical Center Groningen, I am responsible for innovation and therefore allowed to spend a good deal of my time on keeping track and explore new technologies, in many cases working close together with the University of Groningen Library.

A new project on Mobile Services, including Augmented Reality for our library and the UMCG, is going to start in September 2010. Connected to this is our interest in iTunes U to distribute educational and instructional content in relation with Open Courseware.

To offer our users personalization tools we launched a CMB Toolbox, a Netvibes dashboard with all our resources, news and tools available to be shared and embedded on almost any platform. It is wonderful to see how students react when they discover the great possibilities there are on the web to personalize their own things.

A real challenge for the next years would be to extend this to a possible platform for researchers within the university and create a Virtual Research Environment.

With our ever growing amount of available content and resources, inside and outside our library, a good search and discovery tool is essential. As part of a team within the University of Groningen Library , we will be trying to identify a suitable solution to integrate all this at the end of this year.

In my personal life I use many web 2.0 tools in sharing all sorts of interests. Sharing music preferences via Blip.fm, pictures via Flickr. The latest two applications I can recommend are Yumit, A website to share your "favorite dishes & places to eat" with your friends and if you want to share trips and travels, even on a motorcycle, EveryTrail also available as iPhone app.

- EveryTrail:
    http://www.everytrail.com/

- Yumit:
    http://yumit.com/

- CMB Toolbox:
    http://www.netvibes.com/cmb

- Digicmb (me):
    http://www.netvibes.com/digicmb

8) NEW DIGITAL DIVIDE

B. Bauer: *Meanwhile, there are many who see emerging technologies as enrichments that will very well may gain more value on the Web. However, there is also a considerable group for whom the challenges of the Web are (still) not obvious and beyond their grasp. Should libraries contribute to in this area with training and education services? Do you see any space left in the modern information society for people who want to stay away from Facebook and Twitter completely?*

G.v.d.Brekel: If you are talking about our users, I believe they have to be offered a choice that suits them best, but also keep them up to date on other choices possible. While implementing a public Netvibes page focused on Dermatology for recommendations and alerts, we did not throw away the email alerts, or even the print TOC delivery. Diversity is a key word in future library service. A few others are - to me - platform independency, mobility, customization and even personalization.

As I wrote before, everybody changes but in different directions and speed. We should not be replacing traditional services immediately, but gradually improve them and shift the focus. Same goes for library staff that seems not to be ready for all new developments. There lies the challenge for library management to find a balance between implementing change and causing fear or resistance. Make a plan and embed innovative and educational activities into it.

Change IS going to happen.
A bit pessimistic quote to illustrate that is by Jack Welsh:

"If change is happening on the outside faster than on the inside the end is in sight."
And I want to balance that out with a more positive by Winston Churchill:
"The pessimist sees difficulty in every opportunity.
The optimist sees the opportunity in every difficulty."

Our library is starting a new course in October 2010 focused on "Science 2.0: trends, tools and tips":
"Science is changing. Science 2.0 influences the personal & workflow of researchers, clinicians and students. This workshop introduces new web-technologies and trends in communication, collaboration, searching, managing & sharing of information. Practical tips to improve efficiency in work and/or study."

9) THE FUTURE OF SCIENTIFIC LIBRARIES

B. Bauer: *We are, for years now, living in a state of constant upheaval. Libraries are increasingly developing from Get- to Push- (or Delivery) Libraries. Constantly new topics - from open access to the archiving of research data, and many tools of social software – are placed on the library agenda. How do you envision the research library of the future? What do libraries need to do to keep a role in all this? What resources and services will libraries offer in the future and which traditional services will disappear?*

G.v.d.Brekel: One main focus for libraries in the future on the long term must be on information architecture & services on local and regional level. A more intense cooperation with main stakeholders at universities and hospitals to adjust, tune -and probably replacement- of Content Management (CMS), Customers Relation Management (CRM), Library Management (LMS) and other relevant systems, research and educational and patient care data, to create an intelligent core system on which to build new services. Service-Oriented Architecture (SOA) is a relevant development to mention.

With interoperability, a modular and standardized character of the new systems there will be opportunities for any partner, including libraries, to look into the possibility of sharing centralized systems and services. And if you add the shift that more and more local-hosted systems are developing into web-hosted systems, there is an even bigger challenge for (medical) libraries to collaborate on larger scale in consortia national and even international, not just in licensing, but also in joint systems (management, search and discovery, services) to improve quality and possibly benefit also financially.

The second focus I would embrace is a bigger effort on developing tools and services for the researchers. While students are often equipped with a Virtual Learning Environment (VRE) within their educational institution, researchers do not have this kind of support and often take care of themselves. Why not give them their own platform or environment where all tools and facilities are embedded, including library resources and services?

I see major players in publishing focusing on researchers for years now in trying to get their work and data in every detail, offering research tools and even creating social networks to build scientific communities. Every academic librarian should have a look at what JISC is doing on Virtual Research Environments (VREs).

To make investments and changes like this possible and embed more social and web 2.0 services, one should look seriously into transforming the traditional labour and services and

8

preparing library staff for their new roles. An academic (medical) library of the future is not merely a gatekeeper to the information, but more an entity concentrating on education, support and services between user and the information. And that entity could very well merge with Education and IT departments into an "Information Commons".

The initiative of the NTNU Library to start a special conference focused on emerging technologies in academic libraries (EMTACL10), and its success in the first year launch with over 300 participants, is indicating the interest and change of focus among academic librarians.

- Information Commons:
  http://www.sheffield.ac.uk/infocommons/index.html

- Virtual research Environment Project. JISC:
  http://www.jisc.ac.uk/whatwedo/programmes/vre.aspx

- Community Sites for Scientists and Physicians: The List:
  http://scienceroll.com/2008/05/24/community-sites-for-scientists-and-physicians-the-list/

- Conference "Emerging Technologies in Academic Libraries" (EMTACL10):
  http://www.ntnu.no/ub/emtacl/?programme

- Envisioning Future Academic Library Services : Initiatives, ideas and challenges by Sue McKnight, editor.

10) THE FUTURE OF LIBRARIANS

B. Bauer: *The above-mentioned transformation of the library is associated with very large changes in the profession of librarians. Without having to be a great prophet, one may find that many of the traditional library functions disappear in the next few years - in particular, (almost) everything that has to do with print media. The library of the future should be shared by library staff and associates, who understand the concept of Web 2.0 / Library 2.0 and use social media tools as an enrichment, not as a threat to feel. An important role will also be the future training of library professionals. Are there important and desirable topics that need to be more firmly embedded in the appropriate curriculum for library education, according to you? What measures can you recommend for library managers and leaders to prepare their employees for the challenges of emerging technologies and their use in libraries?*

G.v.d.Brekel: New roles have new requirements. And those new roles affect every level within the organization. Change and Project Management, teaching & communication skills and "Web literacy" would be my focus points in staff education.

Management will have to tackle and manage the aspects of constant change outside and inside the organization. Constant analysis of student, research and other staff workflow should lead to more customized services. An Emerging Technologies librarian -with accurate knowledge of web literacy- feeds library management and staff with possibilities of applied use within the library.

Library staff should leave the library building more, to maintain customer relations. The users of the digital library out there deserve at least as much attention-but perhaps even more- than the ones actually visiting the physical library. A more pro-active attitude is necessary to make library resources and services visible. Boundaries between library departments will become less strict.

Communications, cooperation and flexibility are essential within the new library.
But if I was to pick one most essential driving force for (future) library staff it would be:
curiosity

****

Contact address

A.J.P. van den Brekel (Guus)
Central Medical Library, University Medical Center Groningen
P.O. Box 30001, 9700 RB Groningen
Email: a.j.p.van.den.brekel@med.umcg.nl
Website Library: http://www.rug.nl/umcg/bibliotheek
Public Page: http://www.netvibes.com/digicmb
Phone: +31503632632 Mobile: +31641628117
Blog: http://digicmb.blogspot.com
Twitter & Skype: digicmb
Linkedin: http://nl.linkedin.com/in/guusvandenbrekel

Biographical data

Guus van den Brekel is Coordinator Electronic Services of the Central Medical Library
(CMB) of the academic teaching hospital University Medical Center Groningen (UMCG) in
the Netherlands.
He is a Medical Information Specialist, as well as IT coordinator and responsible for Library
Services Development and Innovation. Developing and delivering library services in the users
workflow is his main focus. In workshops and presentations he delivers a strong plea for a
focus-shift for librarians, a focus on the environments "where the users are", instead of
expecting them to come to us.
The development of -and systematically offering- of "Library widgets" to users plus a
Netvibes Universe for educational and instructional purpose is his latest project. More
information about Guus can be found at his personal blog called DIGICMB.

Selected publications

o "The changing of the User Environment. Into the user environment now! How users
   have changed and how libraries can adjust."
   Journal of the European Association for Health Information and Libraries, 2007, Vol
   3, p. 8-16.
   http://www.eahil.net/newsletter/journal_2007_vol3_n1.pdf

o Virtual Research Networks : Towards Research 2.0 Keynote at Emerging
   Technologies in Academic Libraries (EMTACL10), 26-28 April 2010 Trondheim,
   Norway.

o Do Libraries Meet Research 2.0? : collaborative tools and relevance for Research
   Libraries LIBER 2009 Toulouse.
   Presentation June 30th 2009 Toulouse at LIBER Conference 2009 (see the video)
   http://liber2009.biu-toulouse.fr/ Research Libraries & Web 2.0. Scientists
   engage in science & research 2.0, libraries should follow, reach out, engage,
   explore and facilitate.

o Exploring Virtual Librarianship: Second Life Library 2.0 (as co-author)
   Internet Reference Services Quarterly, Volume 13, Issue 2 & 3 June 2008 , pages 167
   – 195:
   http://www.informaworld.com/smpp/content~db=all~content=a903675169

o Healthlnfo Island: Center of Consumer Health and Medical Information In Second
   Life / co-author chapter: In: Virtual Worlds, Real Libraries : Librarians and Educators
   in Second Life and Other Multi-User Virtual Environments.
   http://books.google.nl/books?id=jlOPKr9W61QC&printsec=frontcover&sourc
   e=gbs_ge_summary_r&cad=0#v=onepage&q=health%20info&f=false

o (Online) Workshop Emerging Technologies in Libraries:
   http://www.netvibes.com/emergingtechnologiesinlibraries#The_Course

o (Blog) DIGICMB, The Web, Research, Virtual and Social Networks and Health and
   Medicine "The Infectious Library":
   http://digicmb.blogspot.com/

o (Blog) NLM Toolbars : All News, Tools and Resources of the Largest Medical Library in the World Right At Your Fingertips (including the PubMed Toolbar)
   http://nlmtoolbars.blogspot.com/

o All Presentations, Workshops and Projects:
   http://www.rug.nl/staff/a.j.p.van.den.brekel/projects
   http://www.netvibes.com/digicmb

****

The German version of this interview is online available:
Van den Brekel G, Bauer B. Innovative Information- und Kommunikationswege an wissenschaftlichen Bibliotheken: 10 Fragen über Anwendungen und Erfahrungen von Web 2.0 bis Emerging Technologies von Bruno Bauer an Guus van den Brekel, Informationsexperte an der Medizinischen Bibliothek der Universität Groningen. GMS Med Bib Inf. 2010;10(2):Doc20.
http://www.egms.de/static/en/journals/mbi/2010-10/mbi000203.shtml
http://www.egms.de/static/pdf/journals/mbi/2010-10/mbi000203.pdf