From Collections to Connections: Turning Libraries “Inside-Out”

The 21st International

BOBCATSSS Conference

23-25 January 2013, Ankara, Turkey

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Editors:

Zehra Taşkın, Tolga Çakmak & Güleda Doğan

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Editors: Zehra Taşkın, Tolga Çakmak & Güleda Doğan - {ztaskin, tcakmak, gduzyol}@hacettepe.edu.tr

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Preface

BOBCATSSS is an annual conference organized by students from European universities. The conference takes place under the auspices of EUCLID (European Association for Library and Information Education and Research) and deals with themes and trends in the area of library and information science; a field with increasing significance to both society and to private and public institutions. Students within this field collect highly important competences which allow them to deal. BOBCATSSS 2013, with its main theme "From Collections to Connections: Turning Libraries 'Inside-Out'", forms an international meeting place conjoining the works, ideas and projects of students, professors and information specialists.

Every year the BOBCATSSS is organized, and managed by students. The Conference received considerable international attention. The total number of abstracts received was 137, of which 53 were accepted as paper, 11 as workshop and 4 as pecha-kucha presentations. BOBCATSSS 2013 also featured 30 poster presentations, 2 keynote speakers and a special LIS schools session.

BOBCATSSS 2013 was organized by students from two universities, namely, the Department of Information Management of Hacettepe University, Turkey; and the Royal School of Library and Information Science, Denmark.

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The Inside-Out Library: Rightscaling, Engaging, Learning

Lorcan Dempsey
Online Computer Library Center, Ohio, USA. Email: dempseyl@oclc.org

Abstract: *The classic library was built on an 'outside-in' model: information materials were brought to the institution, and made available for use. This was appropriate in an age of information scarcity and high transaction costs. The only way effectively to interact with a large body of knowledge was to have it assembled close to the reader. Our environment has now changed. We live in an age of information abundance and transaction costs are reduced on the web. This makes the locally assembled collection less central. At the same time, institutions are generating new forms of data - research data, learning materials, preprints, videos, expertise profiles, etc. - which they wish to share with others. These need to be managed and disclosed, as an 'inside-out' perspective becomes more interesting. This creates new questions for libraries. What is the best scale to do things at (locally or in the cloud)? How do you better understand the changing research, learning and information workflows of readers and become more engaged with them? How do you become a learning organization which can respond effectively to change?*

From Collections to Connection: Building a Revised Professional Platform for Librarianship

Ragnar Andreas Audunson
Oslo and Akershus University College of Applied Science, Norway. Email: Ragnar.Audunson@jbi.hio.no

Abstract: *Do libraries and librarianship have a future? Influential participants in the public sphere maintain that history has overtaken libraries and librarianship. Some claim that university libraries are not needed anymore. Scholars have access to the information, scientific journals and scholarly books they need directly from the offices. In order to answer these challenges such as this we have to establish an understanding of what librarianship really is. The core competencies of librarianship have traditionally been understood as rooted in knowledge organization, i.e. describing, indexing and retrieving documents in a collection. Such an understanding of the fundamental core of librarianship has to be qualified and expanded, and the topic of this conference - from collections to connection - provides us with a clue for such an expansion. Librarianship is a profession which, on the basis of organized collections of information and literature, promotes knowledge sharing, knowledge generation and cultural experiences. The organized collection is the tool, the social processes related to knowledge sharing and cultural experiences are our mission. In the pre digital era, the tools - the collections - were occupying an unproportional part of the professions attention. In the digital era we are in a position to focus upon the social processes making up the profession's mission. That shift from focusing upon the instruments to focusing on the mission - from collections to connection - provides a basis for formulating a professional role and platform highly relevant for the digital era we are living in. But such a shift in professional focus and the fundamental changes it might presuppose in the curricula of LIS schools is difficult and demanding.*

#Utøya: Studying the Spread of Information during the July 22nd Terrorist Attacks

Mikael Gyhagen
University of Borås, Sweden. Email: s095216@stud.hb.se

Abstract: *This study is an analysis of the spread of information through Twitter contrasted with the reporting through a major Norwegian news network (TV2 Nyhetskanalen) during the terrorist bombing in Oslo and the massacre at Utøya July 22nd, 2011. The paper explores the impact of individual tweets immediately before and after four key events: (1) the bombing of the governmental buildings in Akersgaten, (2) the first official reports of shootings at the Labor Party youth camp at Utøya, (3) the arrest of the terrorist and (4) the publication of the identity of Anders Behring Breivik. Through tabulation of the potential audience for each re-tweet received by the tweets during these intervals, the goal is to determine the potential impact of Twitter as a social sensor and message bearer during dramatic events such as terrorist attacks. Through an extensive crawling of over 60.000 interactions, each tweets' individual impact is shown to have reached audiences of several hundred thousand potential readers, often ahead of public reporting. This may be read in contradiction to earlier research, stating Twitter's prevailing tendency of being a reactive medium. The results also point to a changing relationship between eye-witness accounts and the public audience without media as an intermediate moderator.*

Keywords: *Twitter, social media, webometrics.*

Introduction

On July 22, 2011, Norway was struck by an unprecedented terrorist attack. At 15.48 the center of Oslo was rocked by an explosion that damaged most of the government buildings in Akersgaten. A few hours later, as the picture of what had transpired was just starting to form, the reports came in of shootings at the Norwegian labor-party youth camp at Utøya. Media, both traditional and social was flooded with information and speculation, the need for information clearly manifest in all of these channels. At 01.19, when authorities released the identity of the terrorist, the terms "Anders Behring Breivik" and "ABB" had been trending topics on Twitter both nationally and worldwide for a long time. What sort of questions does this raise about the way we perceive and distribute impressions in times of national crisis? Are we heading into a new age of crisis reporting? This paper intends to, while not answering these broad questions, examine the activity over social media and some of the methods for reading impressions in this unique material.

The aim of this study is to map the distribution of information during the terror-events, and simultaneously generate a picture of the role certain media played in decimating this information. Through the aggregation of tweets and the archived news broadcast from TV2 Nyhetskanalen the goal is to construct parallel timelines to measure the impact of the television broadcast on the activity on Twitter during four key events on July 22nd.

- The original bombing in Oslo
- The attack at Utøya
- The arrest of the terrorist
- The publication of Anders Behring Breiviks name and uncensored image

For each of these events separate set of terms are generated to acquire a full spectrum of the related tweets, and these are overlaid a timeline from the broadcast archives. The intention of this overlay is to discern any possible spikes in Twitter activity relating to the reporting in the broadcasts. The two main themes of this study are quantified as (1) to what extent did the sharing of messages across Twitter function as a news bearing medium? and (2) how does this propagation relate to the news reporting in traditional media? The preliminary results presented in this paper thus focus on information behavior of researchers. They tackle the types of resources and media utilized in support of research activities. Some special emphasis is placed on types of use and user preferences regarding the types and formats of information resources. In general, we have investigated the impact of information and communication technologies on various aspects of the information process. The study was conducted as a part of the project V5-1016, funded by the Slovenian Research Agency.

In the following sections follows a brief background for this study, focusing on studies of Twitter and events of major social upheaval. A brief description of the methods used in this study also precedes the presentation of findings. After a discussion of possible conclusions as well as sources of error, a postscript outlines a few potential areas of future study grounded in the findings and proposed methods of this study.

Background

Over the recent years several attempts have been made to map the Twitter sphere though the purpose of most is to measure behaviors of Twitter users, as well as behavioral trends. The goal of this paper is to change this focus from a study of societies to the examination of users as broadcasters, and leaving the message as the object of study.

The study which relates most closely to this one is "An Empirical Comparison of Topics in Twitter and Traditional Media An Empirical Comparison of Topics in Twitter and Traditional Media" (Zhao & Jiang, 2011) where the aim is to study the propagations of Twitter hashtags over a given time period, to attempt to discern if information were treated differently depending on its nature, or if it was possible to discern "Tribes of behavior" depending on the context of tweets. For this study a method of measuring the activity of Twitter topics was used, and a measure was proposed based on the term frequency within the Twitter mass. A separate but related study was created by Kwak, Lee & Moon (2011) where one of the final conclusions was based on whether Twitter were directly influenced by other media. Their figures show a clear correlation between media events (in this case television rapports) and increased activity in the Twitter mass.

A few notable studies in the recent two years have tracked information behaviors in times of crisis in modern, connected societies. Outstanding to this study are particularly Fahmi's study of the Egyptian blogosphere during the Arabian sprain (Fahmi, 2009) and Tonkin, Pfeiffer, & Tourte (2012) study of the usage of Twitter and Facebook during the London Riots. They both build a great deal of insight in the response pattern of western digital media users, particularly youths, during non-natural disasters. Invaluable to this study though is "Earthquake shakes Twitter users; Real-time event detection using social sensors" (Sakaki, Okazaki & Matsuo, 2010) which utilizes Twitter trends in a way similar to Kwak, Lee & Moon (2011) to track the spread of an earthquake in real time as it spreads across the Japanese mainland. Utilizing eyewitness rapports rather than editorially filtered statements gives an insight into the changing perspective on propagation of information in the digital age.

The preliminary results presented in this paper thus focus on information behaviour of researchers. They tackle the types of resources and media utilized in support of research activities. Some special emphasis is placed on types of use and user preferences regarding the types and formats of information resources. In general, we have investigated the impact of information and communication technologies on various aspects of the information process. The study was conducted as a part of the project V5-1016, funded by the Slovenian Research Agency.

Methodology

The material was generated though a crawler searching the archives available through the internet service "Topsy.com", utilizing a two part crawler constructed in JavaScript, the first to gather all tweets and register their re-tweet activity in one minute intervals within a range of +-10 minutes of the events, and then the second used this data to ping the Twitter API to retrieve the number of followers of each individual re-tweeter.

The individual groups of search terms for each of the four instances, as well as the time span for the searches was acquired from archive footage of TV2 Nyhetskanalens broadcast during the attacks, and with each event the time of reporting was noted. The phrasing used during the first instance of reporting was used for the construction of search terms, to as actively as possible perceive any direct relationship with the Twitter material in the following search span.

Each of the user clusters generated through the crawlers were the tabulated to generate the potential sum audience for each of the tweets. Beyond the individual impact of the individual tweets, this "impact factor" was used to tabulate the average spread as well as to create a concrete measurement of the spread of the topic and peaks and lows during the 20 minute interval each search covered.

The intent in the tabulation is to quantify the reach of the messages through the Twitter network, both individual strong tweets with many interactions a high individual impact, and the overall impact of the search. Through this calculation we can begin to discern a pattern of the overall impact of social media in events of this type, and also read a trend in relation to the reporting in media, and the release of new information into the timeline through other channels. This would be present in the form of spikes in impact over the greater Twitter mass within the searches.

Notes on the Material

Twitter was chosen for its openness and achievability. Of the other social networks considered only Facebook and Google+ have the pervasion of Twitter. They were discarded for different reasons, Facebook because its updates are obscured behind active privacy filters, exile Twitter's microblogging platform is by default publicly accessible and searchable, and Google+ because at the time of the attacks it was still in its early adopter stage. The News broadcaster TV2 was chosen due to their nature as a 24-hour news broadcaster, and thus full-time coverage of this sort is already within the channels editorial practice as opposed to NRK and other national broadcasters.

Findings

The four sets of crawling generated a corpus of 1,933 individual tweets with a total of 60,541 re-tweet interactions[1]. The graphs in each section present the materials associated with ash search in shortened form, with a tabulated average for each minute.

Search 1: The Explosion in Oslo

In this event the first reporting is time stamped at 15.48. The terms selected for this search were "Eksplosjon", "Oslo" "Terror" and "Regjerings*". This generated a total of 456 tweets in the 15.38-15.47 interval and 576 from the 15.48-15.56 interval[2], with 19,459 and 23,344 retweet interactions respectively.

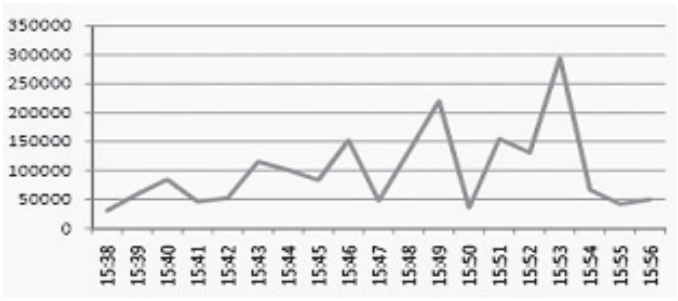

Figure 1. Average tabulated impact over time of search 1

This period is largely dominated by large news corporations, and news broadcasters, many on them international. The high average impact over this period, ranging between 30,447 (15.38) and 294,001 (15.48), is largely due to the spread of the news through international channels. The high impact from the period before the anchor time is due to the delay in reporting from TV2 Nyhetskanalen. As such the increasing tendency in the period following can not be attributed to any obvious correlation with the News broadcast, without also examining international sources beyond the scope of this study.

Search 2: The Attack on the Youth-Camp at Utøya

In this event the first reporting is time stamped at 18.01. It is described as "A serious situation at Utøya". This was deemed sufficient to apply this timestamp. The terms selected for this search were "Utøya", "skudd" and "skyt*". This generated a total of 133 tweets in the 17.51-18.00 interval and 386 from the 18.01-18.10 interval, with 2,035 and 4,506 retweet interactions respectively.

This search is dominated by users with close relations to the Norwegian labor party, or active youth politicians in Norway five of the strongest tweets in this period, from users' @bthansen, @bjornjarle, @ketilvetve @runarnygaard and @thyges1 all fall within one or both of these categories. Here we also see a distinct contrast to the ideas presented by Kwak, Lee & Moon (2011), of the effect of television broadcasting on Twitter reporting. Also within this search are several witness accounts (@ketilvevle being among them). A

[1] This material is available from the author upon request.

[2] The search from 15.57 returned a damaged file, and reproduction was not attempted, it is therefore intentionally omitted from these results.

surprising factor in this search is the lack of speculation amount the strong tweets, and how relevant all the crawler results are to the intended query.

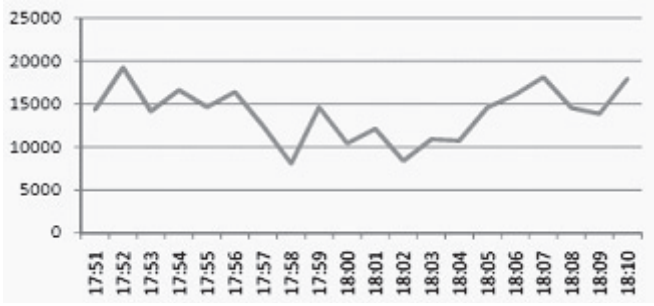

Figure 2. Average tabulated impact over time of search 2

Search 3: The Arrest at Utøya

In this event the first reporting is time stamped at 19.10. The report is of Police activity at Utøya, the official statement on the arrest is delivered at 19.16. Despite this the first timestamp is chosen. The terms selected for this search were “arrest*” “Pågrepet” “Hvit” “Nordisk” “politi*” and “Police”. The terms "Nordic" and "White" were chosen for their use in describing the terrorist in many of the reports associated with this event. This search generated a total of 44 tweets in the 19.00-19.09 interval and 153 from the 19.10-19.19 interval, with 2,481 and 3,605 re-tweet interactions respectively.

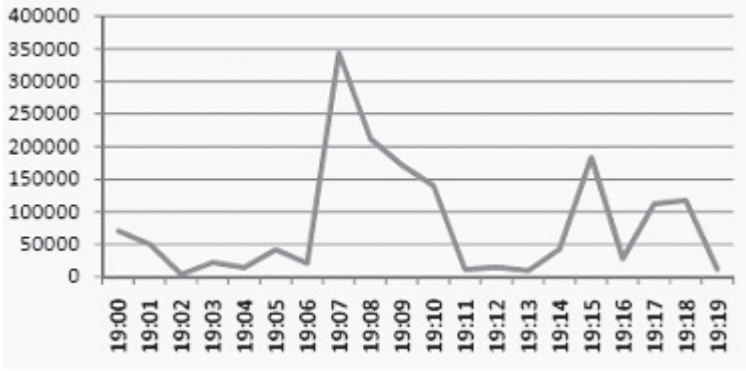

Figure 3. Average tabulated impact over time of search 2

This search is notable mostly because of the large spike at 19.06. The reason for this large jump in impact is that one of the tweets in the corpus, by @kinablog was re-tweeted by the British author Neil Gaiman whose Twitter account (@neilhimself) has over 1.1 million followers. While it skews the curve as seen over time, it does not change the significance or impact of tweets during this search. Though it does raise and interesting tangent on the message-bearing power of individual Twitter users.

Search 4: The Name and Image of Anders Behring Breivik

In this event the first reporting is time stamped at 01.18, July 23, with full confirmation of the name and image of Anders Behring Breivik. The 01.18 time was used as an anchor for these search, but due to the, already confirmed, presence of both "Anders Behring Breivik" and "ABB" as trending topics on Twitter, well before the official announcement, only the 5 minutes at the start of the 10 minute intervals were crawled. The terms selected for this search were “Anders”, “Behring”, “Breivik” and “ABB”. This generated a total of 79 tweets in the 01.09-01.13 interval and 106 from the 01.18-01.22 interval, with 2,057 and 3,054 retweet interactions respectively.

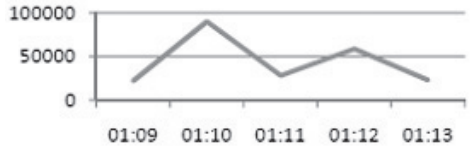

Figure 4a. Average tabulated impact over time of search 4, part 1

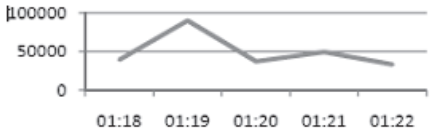

Figure 4b. Average tabulated impact over time of search 4, part 2

This search corpus presented the only clearly discernible spike relatable to the reporting in the news material, but it is worth noting that it does not carry through as a larger trend after the first two minutes. Despite of this the tweets in the corpus of the second part of the search relate directly to the confirmation and many of them state this outright.

Analysis and Reflections

The materials do not present a uniform picture of the timeline. Rather they present separate tendencies, all valid relating to the way social media is being utilized in western society. What is notable is that there seems to be a tendency to bypass traditional mediated channels and report directly in relation crisis situations. Several of the users in the corpus are journalists reciting news without editorial process, directly through private accounts.

The circumstances surrounding the terrorist attacks in Oslo deviate distinctly from the comparable situations in related studies. Mainly affecting, in the case of the bombing, a central urban area, with our recent precedent since the bombing in London in 2005, also the catastrophe was manmade, a sharp contrast to previous studies focus on natural disasters (such as Sakaki, Okazaki & Matsuo, 2010).

The events at Utøya struck, with few exceptions youths, a group generally regarded as the most active, and engaged, and users of social media. They can possibly be best compared to the young Egyptian bloggers or English rioters. Not just because of their youth but their use of the tools provided by social media to organize and inform. Tweets calling for the locals to drive boats around Utøya to retrieve escapees and for the clearing of roads to give police access are abundant within the tweets surrounding the 18.00 reports. This along with the prevalence of eye-witness accounts figuring strongly in both the first search-intervals paint the picture of users who eschew the intimacy of direct reporting, informing individual relations one at a time, for the near instantaneous proliferation inherent in a Facebook status or a tweet.

References

boyd, D., Golder, S., & Lotan, G. (2010). Tweet, tweet, re-tweet: Conversational aspects of retweeting on Twitter. In *Proceedings of the 43rd Hawaii International Conference on Social Systems (HICSS)*.

Fahmi, W.S. (2009). Bloggers' street movement and the right to the right to the city. (Re)claiming Cairo's real and virtual spaces of freedom. *Environment & Urbanization, 21*, 89-107.

Jansen, B.J., Zhang, M., Sobel, K., & Chowdury, A. (2009). Twitter power: Tweets as electronic word of mouth. *Journal of the American Society for Information Science and Technology, 60,* 2169-2188.

Kwak, H., Lee, C., & Moon, S. (2010). What is Twitter, a social network or a news media? In *Proceedings of the 19th International Conference on World Wide Web*. New York: AMC.

Sakaki, T., Okazaki, M., & Matsuo, Y. (2010). Earthquake shakes Twitter users: Real-time event detection by social sensors. In *Proceedings of the 19th International Conference on World Wide Web*. New York: AMC.

Shifman, L., & Thelwall, M. (2009). Assessing global diffusion with web memetics: The spread and evolution of a popular joke. *Journal of the American Society for Information Science and Technology, 60,* 2567-2576.

Tonkin, E., Pfeiffer, H.D., & Tourte, G. (2012). Twitter, information sharing and the London riots? *Bulletin of the American Society for Information Science and Technology, 38,* 49-57.

Wilkinson, D., & Thelwall, M. (2011). Researching personal information on the public web: Methoods and ethics. *Social Science Computer Review, 29,* 387-401.

Zhao, X., & Jiang, J. (2011). An empirical comparison of topics in Twitter and traditional media. Retrieved from http://www.mysmu.edu/faculty/jingjiang/papers/TechReport(Zhao2011).pdf

“Social Media is Driven by Passion!” - A Qualitative Research about Librarians and Their Relationship with Social Media

Märta Sjöblom
University of Borås, Sweden. Email: marta.sjoblom@hotmail.com

Sofia Lundgren
University of Borås, Sweden. Email: anna.sofia.lundgren@gmail.com

Abstract: *This paper explores librarians at public libraries the thoughts of on social media as a marketing tool for their libraries. Four librarians in Gothenburg were interviewed. Our study examines how they relate to social media as a marketing-tool; how the librarians use it and what the expectations are of the outcome. There have been many discussions among librarians in recent years regarding the use and impact of social media at libraries. Andersson (2011) writes that the use of social media differs between public libraries, but she found that they had some purposes in common and those were especially to communicate and build relations to the public. Our results show that although positive aspects, such as outreach to new audiences and promotion of library services, collections and events are most common, this study indicates some negative perceptions and disadvantages among our informants. That kind of marketing is not appreciated by the more traditional librarians in Sweden as social media is a nontraditional channel for marketing library stock and activities.*

Keywords: *Social media, public librarians, marketing, Sweden.*

Background

Social media has made a huge impact on the society. The commercial market has found that these channels are good for advertising and so new marketing strategies have been created. Librarians on the other hand have still not fully embraced the new marketing potentials with social media, despite the many benefits that can be achieved, that could be especially interesting to public libraries, since they’re often under budgetary pressure, as a lot of the advertising space is free. Librarians are thus facing new challenges as the web develops. They need to keep up with new trends and at the same time learn who is using what in order to grasp all possible ages and interests.

Purpose and Research Questions

The purpose of this paper is to explore how librarians at public libraries relate to social media as a marketing-tool. From this purpose we formed these two research questions:

- How do librarians at public libraries perceive and utilize social media?
- What is the expected benefit of using social media as a tool for marketing, and what do the informants think of the outcome?

Previous Research

Farkas discusses how different types of libraries have different challenges in their operations, with different audiences and primary responsibilities (2007, p. 236). Public libraries are described as organizations with a broad audience with different age, interests and needs, and with the challenges that comes with that. One of the public library’s most important tasks is to inspire children to lifelong interest for reading and knowledge, which can be encouraged via social media by games, programs and recommendations of books and movies, according to Farkas (p. 238). Social media can also be a tool for creating a community for young people in general, by encouraging them to express their own creativity and culture by for example making video-logs or arranging game nights.

Every library uses social media to different degrees, to reach out to a wider audience, concludes Andersson in her Bachelor thesis from 2011. What the libraries want to reach out with differs, and Andersson compiles it to 6 purposes: to market the stock at libraries, to create a dialogue and communication with the users, to create a

relation with the users, to inform and open up the digital possibilities so that the users don't have to visit the physical library, to show the competence and the expertise that librarians have, and to improve the image of the libraries (Andersson 2011, p. 26).

Marketing is a broad subject and Kotler, Armstrong, Wong and Sanders (2008) examine very basic principles as well as new trends in the industry. Marketing is not only for advertising and selling but also to satisfy customers' needs (2008, p. 6), which makes this book interesting, seeing as library marketing has little to do with selling products.

Method

Interviews and Sample

We have chosen to use a qualitative research method, since the purpose is to explore how public librarians relate to social media as a tool for marketing, where the keyword here is related. The reason we chose these librarians is because they work at public libraries in Gothenburg, Sweden, which use some sort of social media. In the sample process we've contacted a lot of different librarians, but the four persons from the three libraries are the first ones who wanted to participate, and so we decided to work with them. The reason as to why some of the librarians we contacted didn't want to participate is due to lack of experience in social media.

The interviews are based on a semi-structured interview guide based on Repstad (2007), where one of us will lead the interview while the other observes. To avoid unnecessary misunderstandings in translation, we've decided to conduct the interviews in Swedish.

Analysis Tool

As an analysis tool we've chosen to analyze through so called meaning merger operation, which is implemented as follows:

First, read the full interview through to create an overall impression. Second, divide the interview into meaningful units. These are the paragraphing that naturally occurs in the interview when the informants turn to talk about something else. From the meaning units, central themes are distinguished and then summarized. The next step is to clarify what each sentence unit adds to the survey's purpose by relating them to the formulated questions. Finally, summarize the results of the interview in a descriptive text (Kvale, 1997, p. 177).

Ethical Principles, Validity and Reliability

We're treating the information about the informants with confidentiality. The names of the informants and libraries are made up, and their identity cannot be discerned through the text. The informants have given their informed consent, both to participating in the study and for recording of the interviews.

Bryman argues that validity and reliability are two important criteria for a scientific research, but that it is complicated to practice on a qualitative study (2004, p. 272). We have in this study tries to fulfill high validity and reliability as much as possible.

Findings and Discussion

In Table 1, we present the informants and their use of social media.

Three Themes

We have chosen to present our findings after the themes we identified during the research process. 3 themes were found: marketing through social media, the future and comparing social media with traditional marketing tools.

Table 1. Findings

Libraries	Definition of the concept "social media"	Social media services in use	The primary use of the services
Library A - Anne Librarian in the adult section at a small library. They work together with a neighboring library, even when it comes to social media.	A forum on the Internet where you can have friends and speak with each other.	Blog Facebook YouTube	Blog: The main focus is to promote reading through book-recommendation. Facebook: Both for promoting the blog and for promoting events at the library. YouTube: Videos with particular emphasis on the library, its users and their daily lives and interests.
Library B - Beth and Bart Beth: a librarian in the non-fiction section. Bart: support-activities for schools. A medium-sized library, placed in a nodal point in the local town center.	A platform or forum where you can communicate, interact and choose in what way, how much, and so on.	Blog Facebook Twitter Website	Blog: Book-recommendations for fiction, non-fiction and children's books. Facebook: Promotion of the blog and events. Twitter: Used partly to get informed about the library and society debate, partly to share their non-fiction book recommendations. Website: Information in co-operation with the local cultural center.
Library C - Claire Works with e-databases, e-medias and social media, and also on the editorial team. A rather big library with many daily users.	What makes the media social is the possibility to interact with others.	Blog Facebook Twitter	Blog: Book- and film-recommendations, and information about new technology. Facebook: Events, book-recommendations and photos. They also have much user-interaction, discussions with the users, both about the library itself and about everyday issues. Twitter: Info about events and reading tips, but also media-monitoring, news and current topics.

Marketing through Social Media

First of: there's a difference between interpretation and way of using. All of the informants think of social media as some kind of interactive web forum or virtual community.

As we see in Table 1, only one of the libraries, Library C, use their social media channels as interaction and communication with their users. The other two libraries' use of social media is instead rather informative. Two-way communication or one-way communication on a library's virtual page seems to depend on the size of the library and their budget. Library A is a small library with few employees. Therefore they have to prioritize the most basic tasks for typical library work. Anne tells that there's not enough time to put on social media. Beth says that communication with users on social medias takes a lot of time and it's not easier as it also needs a lot of updating and therefore a lot of presence. Claire confirms this by her experience of working at a smaller library before getting employed at Library C. The bigger the library is, the more money to go around with which gives more time. The personnel at Library C can spare more time to be social with their users on the web. What we also can see is that as Library C is a quite big library they can afford employing specialists such as Claire. Bart expresses some thwart from his colleagues when it comes to the use of social media. This because some of them are very conservative against new media and techniques.

Comparing Marketing through Social Media and Other Medias

When not using social media, the three libraries use more traditional channels for marketing, such as posters and folders. This is mainly because not everyone use the web or social media. But Bart proclaims that traditional media doesn't give them new users, which social media might do. To obtain that a presence at social media channels is necessary. To add, all of the informants see social media as a complement to their marketing channels. They also like the fact that marketing through social media takes lesser time than marketing through poster and folders which are much more time-consuming processes. Social media is also free to use in comparison to traditional media, which of course is welcoming to the economically pressed smaller libraries. Still, they don't always use the full potential of the tools, perhaps as a result of having too little time. Bart mentions that he especially likes social media because of the function of sharing. It's easy for users to share and spread different marketing messages made by librarians.

Social Media Consciousness

Gothenburg County has a policy document with guidelines on how authorities should work with social media, including definitions of social media (Blennius, 2010). The advice this document give are very basic, but this document affects all libraries in the region. Our informants need to follow these, but they express that what's written isn't far from common sense. It doesn't add much to their work tasks. Instead, some have their own policy documents on how to work with social media. Claire says that their policy document is flexible and easy to update, due to the nature of social media as an ever-changing medium. Claire has a lot of knowledge and experience in social media and is therefore mainly assigned with related tasks at her library. Library C seems to be more of a professional in the social media world. Library C's Facebook account give a more relaxed impression while Library A's and B's Facebook accounts are very formal. Beth even expresses that an informal communication is hard to take seriously. Misspellings and grammatical errors should therefore be avoided in a text written by a librarian. Claire on the other hand thinks that misspellings and such is okay, and hopes that the laid-back attitude will change the archetypal librarian to become a more laid-back person. Overall the librarians have a positive experience on what results use of social media has given them. They believe their users enjoy public libraries being available on the net. Claire tells that she likes to interact with users on Facebook and that her library, among other libraries, have one of the highest numbers of followers. She believes that the fact that she and her co-workers interact with their users make more people follow the library. She adds that they have access to see statistics on their Facebook page. There they can see how many comments and likes they've got. This way, interacting with users not only about library issues, they can change the older view of libraries and librarians, and they can also show the library's other services in an interesting way.

Library A doesn't work much with social media, though Anne believes that the little they do is appreciated. However she doesn't think their efforts on social media draws more visitors to the physical library.

Future

The informants think that there won't be a drastic change during the near future. They will keep using the older tools for marketing, and will probably keep working with, and perhaps develop their use of social media. Anne describes the time issue, and says that if they feel that it takes too much time or if they don't feel they get enough out of the tool then they'll have to re-prioritize. Even though Library A has a blog manifesto, she says that they don't recall having any specific goals when it comes to social media, but that they're developing their use of the tools along the way. Beth mentions the critical point for them, which is they're working with social media as long as it is fun. If the fun is gone, she argues, the passion showed in the updates or blog posts will disappear and no one would either want to write or read.

Bart thinks that if social media becomes a main point in the work description, then one might write status updates on Facebook because you have to and not because it is interesting. Claire concurs with the others about that development will happen over time, as new tools and technology are invented. She points out that not everyone, both libraries and patrons, use social media, or the other traditional tools, and that both are crucial to make a broad appearance.

Conclusion

We've seen that less time and money is spent on social media, compared to traditional marketing tools. However the informants express that the benefits of utilizing social media are good. Especially since they experience that they reach new patrons. The informants appreciate social media as a marketing tool, but because of disdainful expressions from their colleagues they choose to not use social media to its full potential. We believe there has to be a change of attitude towards social media among many librarians to fully embrace the potential of their co-workers' expertise on this matter.

For further research we suggest to look into how libraries as institutions relate to social media, with policy documents etc. and also why some librarians actively choose not to use social media.

References

Andersson, L. (2011). "*Det gäller att hänga på" - en studie om marknadsföring av folkbibliotek via sociala medier*. Unpublished Bacherlor's thesis, University of Borås, Borås, Sweden.

Bryman, A. (2004). *Social research methods* (2nd edition). Oxford: University Press.

Farkas, M.G. (2007). *Social software in libraries: Building collaboration, communication, and community online*. Medford, N.J.: Information Today.

Göteborgs stad. (2010). *Myndigheten i sociala medier - råd för medarbetare i Göteborgs Stad* [Brochure]. Göteborg: Blennius, U.

Kotler, P., Armstrong, G., Wong, V., & Sanders, J.A. (2008). *Principles of marketing* (5th edition). Pearson Education Limited.

Kvale, S. (1997). *Den kvalitativa forskningsintervjun*. Lund: Studentlitteratur

Repstad, P. (2007). *Närhet och distans: kvalitativa metoder i samhällsvetenskap*. (4th edition) Lund: Studentlitteratur.

Business2Business & Social Media: Deloitte's Case

Olga Kempen
Amsterdam University of Applied Sciences, the Netherlands. Email: olga.kempen@hva.nl

Jordi Bruin
Amsterdam University of Applied Sciences, the Netherlands. Email: jordi.bruin@hva.nl

Esther Willemsen
Amsterdam University of Applied Sciences, the Netherlands. Email: e.m.willemsen@hva.nl

Abstract: *This paper is based upon a research for international consultancy agency Deloitte. The objective was to find out whether Deloitte should use social media to communicate with its clients, and if so, what kind of channels should be used. The eventual aim was to provide Deloitte consultants with an advice to strengthen their relationship with business-to-business clients. The main question: How is it possible to encourage interaction between the consultants and the clients and make the consultants more visible?*

Findings

- *Deloitte has many followers/visitors on their several social media channels*
- *Consultants are not very active on social media at this moment*
- *Twitter is the most popular and effective platform to communicate professionally.*

Keywords: *Deloitte, social media, information management.*

Findings

Deloitte is one of the biggest professional service company firms in the world. The company has over 180.000 employees worldwide and 4.500 employees in the Netherlands. Deloitte is spread out in over 150 countries. Deloitte already has a very clear and solid organizational structure. The hierarchical structure is very effective as it shows the position of each of Deloitte's departments. The employees working in the departments will know what they are up to and to which department they can - for instance - address their questions. This also causes employees to be more loyal towards their department. Deloitte uses different kind of social media and applies their own rules when using the name of Deloitte online. The most interesting community for communication with the Dutch Publisher is Twitter. First of all, this channel is used by the Dutch Publisher most frequently. Second, Twitter is a communication channel that is already used by Deloitte as well.

Legal Issues Regarding Deloitte

Deloitte uses Twitter, Facebook, YouTube, LinkedIn and Google+. They are developing a framework around how to manage social media risk, defining what is and isn't acceptable behavior; monitoring use and, where inappropriate, dealing with it. Every organization should always have a social media policy to avoid controversy with their employees, so do the copyright and other intellectual property rules. The purpose of using a social media policy is to set the rules how the employees should use social media. Train your people to avoid these situations and to know everything about the company's social media policy. Only those employees should post, edit or delete content on the social media platforms that are designated and authorized by the employer.

Possible Solutions

We focused on two main practical solutions. The first one is a Twitter Board Game that aims to teach and motivate Deloitte's business consultants to use the famous Social Media platform called Twitter. The game is based on an existing famous board game called RISK and is focused on the business perspective of using Twitter corresponding to the method of "Learning by doing".

The second practical solution that we have come up with is an Intelligence Dashboard that aims to strengthen the relationship between Deloitte and the Dutch publisher. The Dashboard consists of an initial screen with three separate building blocks - Human Capital, Video and Intellectual Capital. The user is consequently led to one of the two additional "pages" of the interface according to the choice he made.

The Human Capital Block reveals a taxonomy-based, searchable Knowledge Map, consisting of Deloitte's consultants who the Dutch publisher might want to contact with.

The purpose of the video is to welcome the visitor, motivate him to browse through the Dashboard, build trustworthy environment and last but not least - briefly inform about the two main options that are available for the user depending on what his need is. Because each user potential user will have his profile registered, the content of the Video will change according to the number of his visits.

The Intellectual Capital Block consists of 8 sub-blocks - Competitive Intelligence, Strategic Intelligence, Risk Intelligence, Marketing intelligence, Technical Intelligence, Business Intelligence, Current Projects and History.

In order to gain access to the dashboard each user has to register his profile in the system beforehand.

Conclusions

To summarize - conducted research for this business case showed that the most interesting channel for communication with the Dutch Publisher is Twitter because it is being used by the Dutch Publisher most frequently and is a communication channel that is already used by Deloitte as well.
The consultants of Deloitte can be motivated to use social media and Twitter in particular in order to become more visible for the Dutch publisher. In order for that goal to be achieved, they have to acknowledge the clear benefits that it would bring to Deloitte - Increased traffic, Branding and image, improved search rankings and new business development possibilities.

Information Literacy in the Context of Student Activism

Denis Kos
University of Zagreb, Faculty of Humanities and Social Sciences, Department of Information and Communication Sciences, Zagreb, Croatia. Email: dkos@ffzg.hr

Jagoda Mesic
University of Zagreb, Faculty of Humanities and Social Sciences, Department of Information and Communication Sciences, Zagreb, Croatia. Email: jmesic@ffzg.hr

Sonja Špiranec
University of Zagreb, Faculty of Humanities and Social Sciences, Department of Information and Communication Sciences, Zagreb, Croatia. Email: sspiran@ffzg.hr

Abstract: *This paper discusses the role of information literacy (IL) in the context of student activism and is based on research taken on the sample of students from the Faculty of Humanities and Social Sciences, University of Zagreb, Croatia. The research was a part of two bachelor's theses which aimed to explore if students recognize and apply modern concepts and competencies which include IL. In a broad sense we aim to define civic participation as a new IL landscape. In the context of making the decision to participate in organized forms of student dissent, this paper aims to examine student opinions, attitudes and behaviour that allow us to define the overall attitude of students towards information and information literacy. Data was collected from June to August, 2012 on the sample of 830 students. The results show that most students are able to locate information in a particular information landscape but their information literacy skills vary depending on how many criteria we use to define information literacy (locating, defining the information need, evaluation, use of information, etc.). Students from the Department of Information and Communication Sciences show higher levels of IL to a certain degree, but these advantages are not present in a continuum, nor can we follow them progress through the comprised years of study. Still, information science students demonstrate a slightly better theoretical understanding of the concept of information literacy.*

Keywords: *Information literacy, information literacy landscape, civic participation, student activism.*

Introduction

This paper discusses the role of information literacy (IL) in the context of student activism and is based on research taken on the sample of students from the Faculty of Humanities and Social Sciences (FHSS), University of Zagreb, Croatia. The research was a part of two bachelor's thesis which aimed to explore if students recognize and apply modern concepts and competencies which include IL. In a broad sense we aim to define civic participation as a new and a separate IL landscape. Civic participation as an IL landscape varies from other formal landscapes, such as educational, research or workplace IL landscapes. IL landscapes are characterized by different topologies, climates and complex ecologies (Lloyd, 2006). They can be interpreted depending on which information we have about them and which new information we can learn about them. We explore the notion of being information literate in a particular information landscape. Student IL skills, indirectly gained in the academic IL landscape, are being viewed in the specific situation of their transition and application to another IL landscape - the new landscape of civic participation. In the context of making the decision to participate in organized forms of student dissent, i.e. when knowing and applying particular concepts and competencies becomes important because of its socio-political significance, this paper aims to examine student opinions, attitudes and behavior that allow us to define the overall attitude of students towards information and information literacy.

Civic Participation as an IL Landscape

There are several resources that give leverage to discussing civic participation as an IL landscape. The American Library Association states that IL isn't a tool that can only be employed for academic, but also for social empowerment (Owusu-Ansah, 2005). Furthermore, author Owens (in Bawden, 2001) states that “the application of [relevant] information resources to the process of decisionmaking to fulfill civic responsibilities

is a vital necessity". If we recognize this necessity or as Correia (2003) discusses if being a citizen demands: making informed decision and choices, individual action as well as collective, being an active, publicly engaged citizen that participates - than such a citizen needs to develop participatory skills. Those skills, by large IL skills, are skills that enable finding, accessing, evaluating and interpreting information. These skills allow acting upon that information so citizens could communicate their needs, identify, follow, anticipate and deal with problems revealed in their analysis of their social environment. Warnick (2002, in Andersen, 2006) explains this analysis as "the capacity to look beneath the surface of discourse, to understand implicit ideologies and agendas". Andersen defines this capacity as genre knowledge or knowledge of strategic communication in the discourse of a community. The implied strategy is created out of citizens will to achieve a specific goal which moves the whole information process. The purpose of that process, in the civic participation IL landscape, is a free and a democratic participation that starts with a citizen who identifies a particular problem or a way to make improvements in his social environment. Action, in that sense, is triggered by a wide specter of themes or problems that can be the subject of ones decision to participate.

Background for the Study

In the context of our research, students are the social group we examine in the context of civic participation. We were interested in the moment that precedes any expression of dissent or activism when students engage in an information process. The quality of the process depends on students' information behavior and the accessibility, quality and type of sources that discuss the problem in focus.

FHSS in contrast to the other faculties at the University of Zagreb stands out by its student's activism. Although sporadic, student activism at the FHSS has marked the last decade with the organization of one big (the faculty was taken over by students for a month) and a few minor blockades of the faculty building and work. Out of these blockades the blockade which stimulated our work was organized in October, 2011. And it lasted for two weeks. Several students blocked the entrance to the student administration center and the deans quarters to symbolically state that they block the place which "takes" (money) from students. The blockade was presented as a part of a wider struggle for free education. However, the main problem with this blockade was that it has been organized based on students' decision to disobey the financial obligations imposed on them by the Learning Agreement (this document says that a student will pay for the expenses of his studies if the ministry in charge fails to do so). Through these students we intended, but also through all the others that joined the protest out of solidarity and the feeling of emancipation (that Shapiro and Hughes (1996) find in the concept of information literacy) and the rest that didn't join, to examine their relationship towards information and information literacy in the context when they are being exposed to a great number of different information which weren't always entirely validated as true and relevant, but also while they were exposed to personal decisions about their future.

Method

Data were collected from June to August, 2012 on the sample of 830 students that are members of 35 different departments (either single or double major). The sample consisted of students attending the first and the third year of BA programs and the last year of MA programs on the FHSS in Zagreb. With this choice of sample students, we divided students that have merely started their studies from the students that were finishing their BA's, and in a separate group their MA's, so we could see the eventual differences provoked by the length of their studies. Also, we extracted a smaller sample of students (extracted students) from the Department of information and communication sciences (70 students) whose results were later compared to the other students. The hypothesis was that these extracted students achieve certain advantages in recognizing and applying information literacy concepts and competencies, due to content and field of study.

Data were collected through a survey that contained 18 open and closed questions. The research explores different variables: the degree of personal engagement in student activism, the support to various forms of student activism, the familiarity of students with their rights and the importance they think knowing ones rights has for the student population as a whole, the selection and use of information sources and in the end the student definitions of information literacy and the personal evaluation of their competencies. The survey was conducted at the beginning of their classes. None of the students has declined to fill out the survey. The survey was anonymous. For students of the last year of MA programs we made an online survey since they have already completed their classes. In the analysis we used qualitative and quantitative methodology.

Results

One third of students (32.57%) state that they participated in some kind of organized form of student dissent (67.43% didn't). If compared to the answers students have given when asked if they are active in any student organization (only 10% are) these findings point to the general passivity of students in the sample. These findings do not vary through the comprised years of study.

91.89% of students state that they get information through informal sources i.e. faculty hallways/word of mouth and 76.11% state that they get information through formal sources i.e. internet portals. Other sources are present in less significant percentages. These findings do not vary through the comprised years of study. Extracted information science students are specific because through the comprised years of study they show a decrease in searching information through online academic databases.

When asked how they find information about their rights (multiple choice) 74.84% of the whole sample stated that their colleagues pointed them to such information sources, 55.6% percent of students stated that they search for resources using search engines on the internet, 16.35% stated that their professors pointed them to such resources, 10.57% stated that they searched online academic databases for scientific articles and only 9.94% stated that they search catalogs for books and serial publications. Again, these findings do not vary through the comprised years of study.

Students were asked to define information literacy. When we analyzed their answers we found that 64.77% had mentioned at least one of the criteria to determine the validity of the given definition (mostly locating the information). There were three main criteria. First - mentioning that information literacy means searching for or locating information, second - mentioning that information literacy means evaluating that information and the third - mentioning that information literacy means using that information. 30.23% mention two of the criteria in any of the possible combinations and only 5% of students mention all three required criteria of validity. Again, these findings do not vary through the comprised years of study and the findings for extracted students also match them.

Extracted students were viewed from the perspective of the third year of study in two ways: 1st: considering the oscillation in contrast to the first and the last year of study and 2nd: compared to other students (the rest of the sample). These students do not join student organizations (none of them is a member in the last year of MA). They stated that they made the decision to participate based on relevant information (item: very important) and this increases in the last year of MA (33.3%) with the exception of the third year (10.5%) in contrast to other students which show a progression through the comprised years of study (here we examined only the students that actually participated in some kind of student activism). When asked if they generally find it important to have relevant information extracted students state that it is extremely important to have relevant information (1st BA - 47.2%, 3rd BA - 47.3%) but in the last year of MA there is an exception. None of these students found it extremely important to have relevant information. Compared to them other students show a progression through the comprised years of study. Extracted students tend to combine formal and informal information sources. When compared they would rather use informal sources (faculty hallways/word of mouth, online social networks) with the exception of the formal source (the administration center) which they regard as informative in certain administrative situations.

Discussion

The results show that most students are able to locate information in a particular information landscape but their ability to define what information literacy skills are vary depending on how many criteria we use to define information literacy (locating, defining the information need, evaluation, use of information, etc.). We can see that the highest percentage values are the ones that describe an informal way of getting information (asking colleagues, information from the hallways), although there is no determined statistical relevance. We can discuss that the overall passivity of students points to the conclusion that although students can locate information in their social environment that information does not stir them to take part in some student activism initiatives. Also, students connect information literacy skills with locating the information which is not enough to say they understand the information processes they participate in.

Extracted students relationship towards use of formal/informal sources shows that whatever the source they pick in the end, their use is guided by their information need and the specific problem they need to resolve. Not only do they pick formal sources in administrative situations but through them they also check the validity of the informal sources. Also from the results about attaining relevant information we can see that the subject of student activism doesn't indulge them to verify the found information although they state that relevance of information generally is important.

Conclusion

If we consider all the results we conclude that students are able to identify their information need and locate information in the academic information landscape. There are certain indications that the information they find either isn't relevant for or doesn't indulge them to participate in student activism initiatives. The study has identified a higher level of IL of information science students compared to other students from the sample that can be seen in their relationship towards the importance of acquiring relevant information and their habits in use of formal and informal sources. Therefore, we may conclude that students don't apply the found information sources to the process of decision-making to participate in student activism initiatives and that the extracted students show only minor advantages.

That being so, it seems that students do not realize that unevaluated information they find has limited potential to be hard enough ground on which they can aim to organize student activism initiatives. The prerequisite for this realization is rethinking the students' role in the civic community. Students, considering their position of the ones that can have the tools (and the tools are IL skills gained in the academic IL landscape), need to be educated about how IL "tools" inform them about their information and social environment. If correctly interpreted IL "tools" can enable well founded, informed and reasoned decisions to participate in student activism initiatives, or in broader terms, in active and effective citizenship.

References

Andersen, J. (2006). The public sphere and discursive activities: Information literacy as sociopolitical skills. *Journal of Documentation, 62*(2), 213-228.

Bawden, D. (2001). Information and digital literacies: A review of concepts. *Journal of Documentation*, *57*(2), 218-259.

Correia, A. M. R. *Information literacy for an active and effective citizenship*. Retrieved December 17, 2012, from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.109.262&rep=rep1&type=pdf

Lloyd, A. (2006). Information literacy landscapes: An emerging picture. *Journal of Documentation, 62*(5), 570-583.

Owusu-Ansah, E. K. (2005). Debating definitions of information literacy: Enough is enough!. *Library Review, 54*(6), 366-374.

Shapiro, J. J. & Hughes, K. K. (1996). Information literacy as a liberal art: Enlightenment proposals for a new curriculum. *Educom Review, 31*(2).

The BOBCATSSS Wiki: Providing a Central Information Resource for Conference Organisers

Selina Chadde
Stuttgart Media University, Stuttgart, Germany. Email: sc020@HdM-Stuttgart.de

Maren Falk
Stuttgart Media University, Stuttgart, Germany. Email: mf089@HdM-Stuttgart.de

Diana Goldschmidt
Stuttgart Media University, Stuttgart, Germany. Email: dg046@HdM-Stuttgart.de

Ilka Schiele
Stuttgart Media University, Stuttgart, Germany. Email: is046@HdM-Stuttgart.de

Wolf-Fritz Riekert
Stuttgart Media University, Stuttgart, Germany. Email: riekert@HdM-Stuttgart.de

Abstract: *An information resource is being constructed to serve as a BOBCATSSS manual. It is a special conference management guideline, which covers not only general project management but also BOBCATSSS-related issues. Moreover, general information on the history of the conference series will be made accessible. Additionally it is meant to be a resource, which helps to avoid mistakes and to further develop already existing and proven ideas. This manual is implemented as a wiki. The wiki is equipped with a logical structure and already filled with initial information content. This approach allows knowledge to be shared between and to be enriched by former and future BOBCATSSS organizers all over the world.*

Keywords: *BOBCATSSS, guidelines, wiki, shared knowledge, project management.*

Introduction

"Organizing a conference... an international one. With mainly students on board... sounds great! But how to start? And what exactly do we have to do?" Of course we don't know how the different organizers over twenty-one years experienced the immense responsibility of arranging such a huge event as BOBCATSSS. But at least for us, the German section of the organizing team 2012, it felt very confusing in the beginning - and not only then.

By participating in the process of organizing and managing the BOBCATSSS 2012 symposium (Riekert & Simon, 2012), we, the authors of this contribution, learned a lot about project management in general and also about the history and characteristics of BOBCATSSS conferences. In the very beginning of that whole process we had a meeting with the organizers of the 2011 symposium, from whom we got a lot of advice. Yet after having organized the symposium in January 2012, we felt it would have been helpful to have a resource with useful information for organizing such an event. In consequence, we decided to create exactly such a resource. This is especially important because, due to the specific nature of BOBCATSSS (decentralized, international, organized by students), common publications on the topic of conference organization are not necessarily sufficient. Nevertheless, this resource does not contain strict rules on how to organize such a conference, but offers different ideas on how organizers of BOBCATSSS conferences could proceed and what might be important to consider. The wiki is meant to be a collaborative resource, which means that every BOBCATSSS organizer, whether former or future, is invited to edit or augment its content and structure.

In addition to a physical meeting with the former organizers, the publication of guidelines for organizing a BOBCATSSS conference forms an effective resource which is accessible at any time. It will be helpful through the various stages of the organizing process - at first for getting an idea of the different tasks in the very beginning, then for building a structure of the team and finally as a guiding resource throughout the whole organizing process.

After all it would be a pity not to use the knowledge built up during the organization of the conference - not only of 2012 but also of other years. Through this wiki, future organizers are able to learn not only from their direct predecessors, but also from other former teams. In this way it is easier to avoid making the same mistakes again.

Why the Implementation as a Wiki?

There are different possibilities in which way to publish those guidelines. Our first ideas included a manual, an e-tutorial, film clips and the wiki, but the e-tutorial or the film clips would have either been too confusing or taken up too much time. A more practical possibility would have been to publish the manual in form of a freely accessible document with a table of contents and a compilation of sections in a linear order. This might have been clearer because it allows to mentally follow the procedure from the start until the end.

Contrary to that, a wiki is a website which consists of more and smaller articles. Therefore, the wiki can be constructed by multiple authors at the same time and the articles can be easily revised. New articles can be added at any time and much easier than in a manual. This is very important because we also wanted to give other organizers the possibility to share their knowledge through this resource. Due to linkages between the articles it is easy to navigate between the different topics. The problem that there are articles which are related to more than one main topic can also be solved with those hyperlinks.

The manual might be more clearly arranged, but nevertheless the wiki also has a table of contents to get an overview of the topics and different articles. Another important aspect was the international accessibility which is guaranteed through all the different options. After all we came to the conclusion that an implementation as wiki is the best way for our purpose.

Why Choosing “Google Sites” and not Something Else?

After having decided on not only the necessity of a central BOBCATSSS resource but also on its general implementation as a wiki, the question for a concrete platform had to be answered.

The most obvious solution would have been to use the most popular wiki software of all: MediaWiki, which is created, published and used under a GPL-licence by the Wikimedia Foundation (2012). It is free to use, based on a relational database and guarantees a design which is both elegant and well-known all over the world. Nonetheless, we almost instantly opted against this software because of two distinct reasons: firstly, MediaWiki requires a Linux-based web server. As none of us had special experiences with neither Linux nor the configuration of a server we suspected that the technical problems would be both too difficult to solve and too time-consuming. Time we desperately needed for the actual content. Secondly, the MediaWiki software is updated on a regular basis. Those updates have to be implemented manually and demand a constant maintenance through one person or a group of persons. This, however, did not at all correspond with our plans of a free BOBCATSSS resource, owned and maintained by all the past and future organisers at the same time.

Therefore, we began to field-test other, very diverse, possibilities without the mentioned disadvantages, among them the Wordpress blog (Wordpress.com, 2012) and Google Sites (Google Inc., 2012). To examine the general usability as a wiki, the flexibility and the ability to create hyperlinks to both internal and external contents (as, for example, pictures or videos) of every platform, we decided to set up test versions filled with simple content. Under the process of creating those pre-wikis, we experienced Google Sites as the most uncomplicated and instinctively usable possibility, which at the same time offered the most facilities for our purpose. In combination with the automatically updated software and the - from our point of view - easy changeable settings without any server configuration, this made Google Sites the favored platform of our BOBCATSSS wiki. Though not actually being a wiki in the proper definition, it offers the possibility to share the rights to edit the whole content as well as a typical wiki.

The BOBCATSSS-wiki can now be found via the following link: https://sites.google.com/site/bobcatssswiki/ (see figure 1).

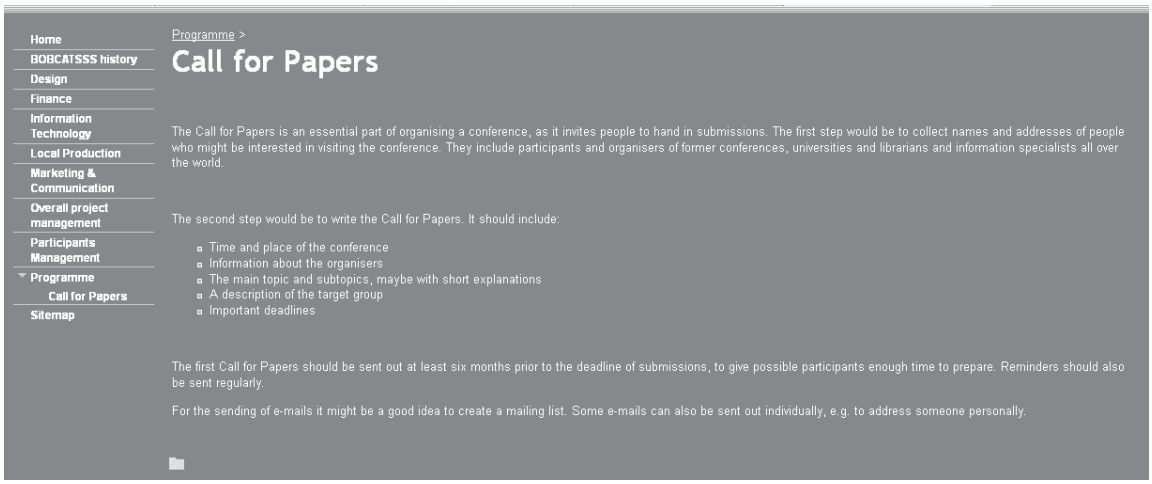

Figure 1: First impressions of the newly created BOBCATSSS wiki

Process of Building This Resource

First of all we created a rough structure of the different topics that should be covered with the wiki. Those topics were distributed to the persons who dealt with them during the organization of the BOBCATSSS conference 2012 because they knew best what it is all about. As only the German team from 2012 is creating the wiki, not all the issues will be covered in every detail, because we did not deal with all the topics.

To guarantee a high quality of the initial BOBCATSSS wiki, each article was reviewed two times. For this purpose we set up a spreadsheet to coordinate the review and upload of articles. Furthermore, we set up a list with the descriptions of all the different linkages. The implementation of those linkages took place at a very late stage to remain flexible as long as possible. We felt that a clear structure of the initial wiki is of crucial importance for the organic growth of the site after its publication.

Moreover, we had to create a unique and independent Google Mail account: bobcatssswiki@gmail.com. We could not use our already existing address used for BOBCATSSS 2012 because of two reasons: on the one hand, we wanted this resource to be easily shared, which is not possible with all the remaining mail traffic (privacy issues!). On the other hand, the wiki shall become a general source for all BOBCATSSS organizers and not be limited to one specific year. The finally implemented address can be used by everybody to propose improvements and is meant to be managed by the respective organizing teams in charge.

For the overall coordination of the whole project we had regular meetings and a special e-learning course as a platform for communication and central resource with all the relevant documents like the different articles.

Logical Structure of the Wiki

The main entrance to the wiki is provided through a general article about BOBCATSSS and a short introduction to the wiki content and function. The different main topics are accessible not only via this page but also by the use of the left-hand drop-down menu. Those top level issues are, in accordance to the task of writing, based on the work packages which were used by the organizing team of the 2012 conference. They are shortly described in the following paragraph:

Design

This topic includes not only information on the design of the webpage, but also on the creation of a corporate design (logo, colors and more).

Finances

Money is one of the most important factors to organize such a huge event. Therefore you have to plan what you need for the different parts, to find sponsors and finally to keep an overview of your account transactions.

Information Technology

To support both the internal and external communication, there is the possibility to work e.g. with a conference management tool, a web content management system and a mailing list server.

Local Production

This issue contains information on every task concerning the local organization of the conference, like finding a conference building, organizing the catering, the social program activities and the schedule for the work during the conference.

Marketing

The point of this task is to spread information about BOBCATSSS, to find potential authors / participants and to keep in touch with them (especially via social media).

Overall Project Management

In every project it is essential to keep the overview and to strategically plan the different deadlines. For those tasks a project leader/leading team for each city is necessary. They also manage the communication both in each city and between the international teams.

Participants Management

To guarantee the participants (incl. authors) an easy and prompt way to get informed, it is useful to permanently have a person in charge who handles incoming questions. Furthermore this task includes keeping an overview over the conference's participant capacity and tracking payment issues.

Program

This task includes the search for authors and the continuous communication with them. Moreover, the program team has to decide which contributions to accept, how the actual program will look like and to publish those decisions (abstract booklet, conference proceedings).

The articles themselves are structured as similar as possible. Meanwhile, the content of one and each article is set up with the purpose of sharing not only general information but also the specialties and experiences of former BOBCATSSS conferences. It is a guide which helps to get an overview of the work that has to be done and if the used methods were successful or not. Additionally, we decided to collect as much of the history of all former BOBCATSSS conferences as possible.

Further Maintenance - Share Your Experiences!

As the wiki is not based on literature but on actual practical experience, our own possibilities to fill the wiki with content and meaning are limited. That's the reason why we need the help of other BOBCATSSS organisers. The more people sharing their experiences, the better this resource is going to work! We hope that this wiki will be well received by both former and future organisers. If we all work together, this wiki can be a central resource that might prevent unnecessary mistakes (that may or may not have happened before) and thereby improve the quality of BOBCATSSS conferences in a whole new way.

References

Google Inc. (2012). *Google sites.* Retrieved December 4, 2012 from http://sites.google.com/

Riekert, W-F. & Simon I. (eds.) (2012): *"Information in e-Motion". Proceedings BOBCATSSS 2012 - 20th International Conference on Information Science. Amsterdam, 23-25 January 2012.* Germany: Bock+Herchen Verlag, Bad Honnef

Wikimedia Foundation (2012). *Media Wiki.* Retrieved December 4, 2012 from: http://www.mediawiki.org/

Wordpress.com (2012). *Wordpress.com - Get a free blog here.* Retrieved December 4, 2012 from http://wordpress.com

Deferred Processing: A Case Study Involving the Slavic, East European and Eurasian Library Backlog at UIUC

Kit Condill
University of Illinois. Illinois, the USA. Email: condill@illinois.edu

Victoria Jacobs
University of Illinois. Illinois, the USA. Email: vjacobs2@illinois.edu

Abstract: *Cataloging backlogs are an issue for many libraries, especially when considering uncommon languages using different alphabets. These materials often await being cataloged for years or decades, until a special project is designated to eliminate or reduce them. Copy cataloging is commonly employed to expedite the process, but many issues such as lack of funding, staff without the necessary language skills, or items with a limited or no presence on OCLC stand in the way of efficiency. This paper examines the workflow of the Slavic, East European, and Eurasian collection backlog located at the University of Illinois, Urbana-Champaign library, as well as some of the challenges faced when processing materials. Consideration is given to libraries' ethical obligation to provide information to users and the possibilities of involving digitization of materials as part of the backlog reduction workflow.*

Keywords: *Backlogs, cataloging operations, cataloging process, workflow management, transliteration.*

Introduction

The last two decades have witnessed a constant stream of new technologies for sharing information, which have been welcomed as tools to simplify people's daily lives. Libraries' adaptation to this digital environment is key to maintaining a presence as well as making their collections known and available to the communities which they serve. Users, who are accustomed to conveniently available information, expect librarians to provide up-to-date services which meet their information needs; in today's world, this means staying current with technological trends including e-resources.

This paper examines one hidden part of many libraries, which works against availability of information and the convenience brought to patrons by the technology, known as arrearages, or cataloging backlogs. The authors provide an overview of some of the different factors contributing to arrearages in general, and the stagnation of the University of Illinois, Urbana-Champaign (UIUC) Slavic, East European, and Eurasian (may be referred to as Slavic or SEEE) collection backlog in particular. The approach taken by library staff to eliminate the Slavic backlog is examined, and the challenges faced by limited staff involving foreign language materials are discussed. There have been past attempts and extended projects to reduce the large cataloging arrearage of SEEE materials, however the focus of this paper is only on the current project.

It may be argued that eliminating a cataloging backlog entirely is unnecessary, as long as the items are accessible to staff and patrons through online access, for example. Another method for increased access to backlog items might include the digitization of materials not covered under copyright, providing a bibliographic record and online access to an excerpt or to the full text for users.

Background

Large backlogs have been a problem for U.S. libraries dating back through the 1950's, if not earlier (Camden & Cooper, 1994). In 1993, two librarians from the University of Virginia did a study on cataloging backlogs at a number of institutions, and in their paper they define several different kinds of backlogs or arrearages; "normal" backlogs are those that develop when there are more incoming materials than the cataloging staff can handle, but pose little issue since the resulting backlog of materials can be used to stabilize the workflow when fewer books are being received (Camden & Cooper, 1994). "Historic backlogs," however, can comprise thousands of uncataloged items that accumulate over a period of many years (Rogers, 1991). The difference between "active" and "inactive" backlogs should also be noted; an active backlog is one from which books are regularly removed and cataloged, but in an inactive backlog, items are not removed and the backlog increases to a large size (Camden & Cooper, 1993).

Several factors that promote the growth of Slavic backlogs include an increasing emphasis on the use of copy over original cataloging (Howarth, Moor & Sze, 2010). This trend to wait for copy cataloging records began to take hold when the Library of Congress introduced MARC in 1968, and the percentage of materials requiring original cataloging at local institutions decreased significantly (Howarth, Moor & Sze, 2010). Conversely, as libraries became accustomed to greater numbers of records being available for copy, a decreasing proportion of copy available for Slavic language materials caused many items to be set aside to wait for records to be made available (Howarth, Moor & Sze, 2010). In addition to the reliance on copy records; a decrease in resources such as funding and cataloging staff with the necessary language skills, continued acquisitions at a regular or increased rate, as well as prioritization of other projects, could easily lead to an overflow of SEEE materials (Howarth, Moor & Sze, 2010).

In 2003, the Association of Research Libraries (ARL) published a White Paper which addressed the issue of access to unprocessed Special Collections materials in North American research libraries (Jones). Although the paper focuses on arrearages of rare books, some problems listed about backlogs are universal; for example, uncataloged or under-processed collections are at higher risk of being lost, and those unprocessed items remain inaccessible to scholars, which hinders research (Jones, 2003). Jones also notes that backlog items "are totally inaccessible because they are likely to be in closed stacks, eliminating the possibility of discovery by browsing" (2003). Unprocessed collections also have a higher probability of receiving physical damage due to unstable temperature and humidity (Jones, 2003). Additionally, items in a backlog are not always recorded acquisitions or gifts, nor are they necessarily given any kind of basic record hidden from the Online Catalog so librarians can search the item using the library's cataloging module, meaning there is no electronic record to show that the library owns those items. This can - and does - lead to purchasing materials already possessed by the library.

The first thing to consider when presented with eliminating a historic backlog is "to estimate the resources that would be required" for its reduction (Rogers, 1991). In some libraries, sample assessment was used to gather information about large historic backlogs. Analysis of a general sample showed approximately how much of the general backlog was, after years of remaining uncataloged, still desired for acquisition into the main collection, and of those desired titles, approximately how many had records available online (Rogers, 1991). For Slavic materials, the analysis "indicated that less cataloging copy would be available, particularly for the older materials, and that processing staff with language expertise would be required" (Rogers, 1991). In the case of foreign language backlogs, especially those with materials printed in scripts requiring special knowledge, it can be expected that any backlog reduction project will take longer than it would with other general collection materials.

The University of Illinois Slavic, East European, and Eurasian Backlog Reduction Project

The Slavic, East European, and Eurasian (SEEE) Section of the International & Area Studies Library at UIUC has amassed a large and relatively inactive arrearage of materials over the years. Its backlog, which has previously been divided among two locations, is currently located entirely in the library's basement. Books from this backlog consist of many different language materials, including but not limited to, Russian, Polish, Georgian, Tatar, Kyrgyz, Uzbek, Tajik, Uyghur, and Kazakh. Although they are the minority, various multi-volume sets and serials can be found scattered among the monographs. The arrearage has only existed for a period of approximately 20 years, yet it is possible to find items dating as far back as 1864, and as recent as 2011, though many date from the 1960's - 1990's. Some problems resulting from mature backlogs include incomplete holdings of catalogued materials; duplication of items; lack of metadata leading to non-discoverability; physical deterioration due to poor storage conditions.

Previous efforts to reduce the backlog were discussed at the Conference on Slavic Backlogs held at UIUC in 1989, funded by Title VIII (U.S. State Department) to address the cataloging, retrospective conversion, and preservation requirements of reducing Slavic backlogs (Byrd, 1990). Efforts to reduce the Slavic backlog continued through the 1990's and early 2000's. The current effort began in October 2011, and is being spearheaded by the Collection Management Services (CMS) department, which was established for the sake of completing special projects performed by the library, however the number of people designated to Slavic backlog reduction is quite small; also, the project's completion date is unknown due to major issues retaining people on the project. There is one library specialist of the entire department assigned to SEEE backlog reduction; at one time he may manage several graduate or undergraduate students, or he may not have any. At the time of this paper, he has one Graduate Hourly worker assisting with the project. The student hourly workers on the project must have some knowledge of at least one language of the region covered by the materials, and preferably familiarity with Cyrillic.

Project Workflow

One way the Slavic backlog reduction project is addressing the time and staffing restraints on the project is by omitting call number classification. If an OCLC record has the basic information such as title, author, publisher location and publisher, as well as any other relevant information that may be used as access points, but has no Library of Congress subject headings (LCSH), the record will be imported and the CMS project manager will attempt to assign LCSHs. This process takes much time since the materials being analyzed are almost entirely in a language which the he does not read, and a very large proportion of materials use an alphabet that requires a transliteration table to distinguish the characters in order to perform the OCLC search alone. Because of this language barrier, he relies on help from the Slavic Reference Service librarians who have the necessary language skills for transliteration or subject analysis.

Assigning call numbers for each item has been determined to take too much time, and there are not enough staff members able to catalog these special language items. Instead, each item that is sent to the remote storage facility receives a sticker that designates it as an "Oak Street Unclassified" item (Oak Street is UIUC's high-density shelving, remote storage facility), and is assigned a barcode by which it will be retrieved by a computer from the shelf. Patrons are not able to physically go to the remote storage facility; rather they must place a request for items online or through a librarian. There are some items which do receive call numbers; they are ones that belong to part of a set or series already in the UIUC catalog, or those which are determined to be reference materials and will be sent to the open stacks of the Slavic reference section. In the latter case, the items receive imported OCLC records (if possible), and are sent to the Slavic Cataloging department, where they are entered into the normal cataloging workflow to be given full bibliographic records including LC subject headings and call numbers.

Another possibility is for a volume which is part of a set or series, or an issue of a journal, to be found in the backlog. When this happens, first it must be verified that the item in hand does in fact belong under the same bibliographic record by retrieving the other cataloged item. Once it is determined to belong with the previous item, the item must be added to the holdings record, and a matching call number is applied. When items are part of a monographic set or series, so each item has its own bibliographic record, the appropriate record is imported (if possible), but the item is treated as other monographs from the backlog, and does not necessarily receive a call number. In other cases, items from the backlog have appeared to be duplicates according to the cataloging record, but when the appropriate shelf and surrounding area is checked and the item is not there (pre-existing duplicate items must not bet marked as lost, stolen, or charged to a patron), the item from the backlog may be given a barcode attached to the item and bibliographic record already in the library catalog.

Most items from the Slavic backlog are entered into the library collection due to the desire to maintain an extensive SEEE collection at the UIUC. The only items which are not added to the collection from the backlog are those which are verified as duplicates, or if there is some printing error causing a book to be incomprehensible.

Some Challenges Involved in Backlog Reduction

Challenges faced by the SEEE backlog reduction project include those discussed above involving lack of language expertise and the need to physically check shelves in the case of duplicate items. In order to address the language issue, CMS project workers are instructed to search first for items with International Standard Book/Serial Numbers (ISBN/ISSN). Many items from the backlog lack these numbers, due either to a particular country's practices or to the item predating their usage, causing them to require more in-depth language knowledge to determine which OCLC record (if any exists for the item) to import. It is not uncommon to find only foreign (generally this means German or French) records available on OCLC, in those cases an original record must be derived from the foreign record. Also typical is to find no existing OCLC records because the item is so rare, thus requiring original cataloging.

As previously discussed, the variety of alphabets associated with the backlog can also be a large time deterrent; much of the script is in Cyrillic, some is Russian, others are Ukrainian, but still more are in other languages - not all of them in the Slavic family - printed using adaptations of the Cyrillic alphabet. For example, the two figures below demonstrate Tajik and Kazakh languages, respectively. The alphabets are very close, and they both use similar special characters, but they do not share all characters, and when transliterating it is important to know which language is being examined so that the correct transliteration may be used. Another thing to keep in mind is which transliteration standard other institutions on OCLC may have applied; LC-ALA uses character combinations to represent the different Cyrillic characters, as opposed to ISO 9, which uses diacritics to achieve a 1-1 ratio for Cyrillic character equivalents. The inclusion of diacritics is not always important when searching OCLC for items, however the transliteration standard used

in the search can, and often does, make a very big difference in the number of results returned, and can determine whether or not a useful and import-ready record for the item is found (i.e., one that does not require derivation). See the images below for two examples of how the different transliteration standards differ. It is more time-consuming, but being familiar with and trying various ways of transliterating texts may improve the likelihood of retrieving a good record.

Figure 1. Tajik language. LC-ALA transliteration: Akhbori Majlisi Olii Jumḥurii Tojikiston. ISO 9 transliteration: Aḥbori Maçlisi Olii Çumḫurii Toçikiston

Figure 2. Kazakh language. LC-ALA transliteration: Tan͡g-Sholpan. ISO 9 transliteration: Taṇ-Šolpan.

Items without ISBNs or ISSNs, especially those in unfamiliar scripts, will generally be placed on another backlog shelf to wait cataloging at a later date.

Statistics

Statistics are kept by CMS on several aspects of the backlog reduction project Keeping track of the total number of items taken off the backlog shelf to be processed is the first step; each statistics form to be filled out for a batch of books has a space to record the start and finish dates as well. As books are processed, those for which records are imported are counted, as are those that only had inadequate or foreign (the foreign records tend to be German or French) records on OCLC, and those with no records. Duplicate items are also counted. Since October 2011, the start of the CMS backlog reduction project, the total number of items removed from the backlog is 3,796 out of approximately 5,000 items in the backlog. Of those removed, 1,840 received copy cataloging records; 1,675 received either derived records (from a foreign library) or original cataloging records; 281 were duplicate items that were not absorbed into the collection, but instead were set aside for the library's annual book sale. CMS does not keep track of the language of the materials processed from the backlog.

Conclusion

Backlog elimination could be considered to fall under the IFLA Code of Ethics, which calls for "Librarians and other information workers promote and publicize their collections and services so that users and prospective users are aware of their existence and availability" (Garcia-Febo, Hustad, Rösch, Sturges, & Vallotton, 2012). They also remind us that "The core mission of librarians and other information workers is to ensure access to information for all for personal development, education, cultural enrichment, […] and enhancement of democracy" (Garcia-Febo, Hustad, Rösch, Sturges, & Vallotton, 2012).

Eliminating a backlog, especially in times of economic restraint, is a complex, time and labor-intensive task, however the new technologies for sharing information, which have been welcomed as tools to simplify people's daily lives over the past two decades, may be able to lighten the burden placed on the few staff members working on backlog reduction projects. Libraries' adaptation to the digital environment is key to maintaining a presence as well as making their collections known and available to the communities which they serve, and has been reflected in the past decade by the shift towards connecting people with online resources, as opposed to the traditional emphasis on static, physical collections. Often without knowledge of libraries' ethical standards, users, who are increasingly accustomed to conveniently available information, expect librarians to provide up-to-date services which meet their information needs; in today's world, this absolutely means staying current with technological trends including e-resources.

Digitization or Preservation departments would be an obvious place to turn for assistance in these cases; however they may also be overburdened by projects from other sources. When investigating the possibility of the digital preservation or filming of backlog materials, it may be worthwhile to consider the feasibility of providing the staff and funding for this added project. Another option to develop a hybrid project, which could involve digitizing materials so all or some of the contents are available online, without relying on pre-existing OCLC records, but instead making just the title page information searchable for basic online retrievability. This would eliminate the need for locating adequate bibliographic records in the present, without sacrificing availability.

At the same time, librarians must keep in mind the economic restrictions everyone is currently experiencing. Is drastically rethinking library operations and backlog reduction in such a manner really feasible? Since financial cutbacks have affected budgets for the purchase of materials, staffing, and other operations within libraries everywhere, would continuing the current workflows be a more effective way of making the items from the backlog available to patrons?

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References

Camden, B. P., & Cooper, J. L. (1994). Controlling a cataloging backlog. *Library Resources & Technical Services, 38*(1), 64-68.

Howarth, L., Moor, L., & Sze, E. (2010). Mountains to molehills: The past, present, and future of cataloging backlogs. *Cataloging & Classification Quarterly, 48*(5), 423-444.

Byrd, J. (1993). A cooperative cataloging proposal for Slavic and East European languages and the languages of the Former Soviet Union. *Cataloging & Classification Quarterly, 17*(1-2), 87-96.

Garcia-Febo, L., Hustad, A., Rösch, H., Sturges, P., & Vallotton, A. (2012). *IFLA code of ethics for librarians and other information workers (full version)*. Retrieved from http://www.ifla.org/news/ifla-code-of-ethics-for-librarians-and-other-information-workers-full-version

Jones, B. M. (2003). *Hidden collections, scholarly barriers: Creating access to unprocessed special collections materials in North America's research libraries.* Association of Research Libraries. Retrieved November 18, 2012 from http://www.arl.org/bm~doc/hiddencollswhitepaperjun6.pdf

Rogers, S. A. (1991). Backlog management: Estimating resources needed to eliminate arrearages. *Library Resources and Technical Services*, *35*(1). Retrieved September 15, 2012 from http://search.proquest.com/docview/57105715?accountid=14553

There is a Conversation in My Search: Differing Uses for Tags

Sarah Marita Rose
University of Tennessee, the USA. Email: Srose13@utk.ed

Abstract: *Tumblr, like other social media, allows its users to create tags that are searchable both throughout the entire website as well as their own blog. Using virtual ethnographic observation, the question of how tags on Tumblr were being used socially was assessed. To organize materials for observation, specific tags were selected using the following criteria: the tag had to lack moderation and had at least one post per hour. Given those criteria the Quotes, "Legend of Korra", and "Tom Hiddleston" tags were chosen. Through observation, the use of Tumblr tags appears to move beyond utilization as a search tool and into a medium for conversation, emotion disclosure, and community building. The varied social use of tags indicates that how people use a tagging system is almost as important as the system itself. Without an understanding of how people are using it, data or tags may be erased in an effort to unclutter the tags.*

Keywords: *Tagging, online communities, communication.*

Tags Background / Purpose of Study

Tagging is an application related to Web 2.0 (Rainie, 2007) that relates to a wide range of metadata (Panke & Gaiser, 2009). Social tagging, meanwhile, refers to the indexing of objects from a free-subject catalog (Panke & Gaiser, 2009). Tags can function individually or collectively -linking up multiple individuals on a given site who have utilized a particular word or phrase a user has indicated. Tagging, through platforms such as Delicious, Twitter, and, journaling/blogging platforms, has become common place. It is no longer new to most heavy internet users. Instead, it is expected -and through that expectation alternative uses for tags emerge. Tumblr is a blogging platform which combines functions from Twitter and Blogger with an additional all site tag bound search system. Not only can users create their own tagging typographies collaboratively but users can track specific tags, allowing them to receive notification when a new post is created for that tag.

Method

Virtual ethnographic observation, or "ethnography in, of and through the virtual" (Hine, 2000), was the primary data collection method. To organize materials for observation specific tags were selected using the following criteria: the tag had to lack moderation and have at least one post per hour. Given those criteria the Quotes, Legend of Korra, and Tom Hiddleston tags were chosen. Posts from those tags were then followed as the posts were reblogged, or post which are reposted from the original onto a second user's blog, and changed.

Findings

While tags are generally used as a search system, Tumblr tags are also used socially as a location for discourse and community building. Although not the first system to have its tagging system to have tags utilized in this manner, Tumblr is likely the most expansive example. Blogger and Wordpress utilize tags for internal, individual, blog searches, not host wide. As such, the use of tags as discourse tends to be limited. Twitter, meanwhile, has conversations through hashtagging (#thisisatag) -but they are short by necessity. Tumblr, meanwhile, utilizes two forms of tags. The first is a site-wide tagging system. New posts' tags are searchable internally (within a specific user's tag system) and site-wide (all new posts with "Quotes" as a tag show up within the site-wide "Quotes" tag). Through Tumblr's site-wide tag search system, as well as the unlimited space for both tags and text, users have altered the use of tags to function both as a search system and a communicative space of their own. On Tumblr, the tags' primary uses fall into four overlapping categories: organization, contributing to communities, furthering conversation or discourse, and indicating emotion.

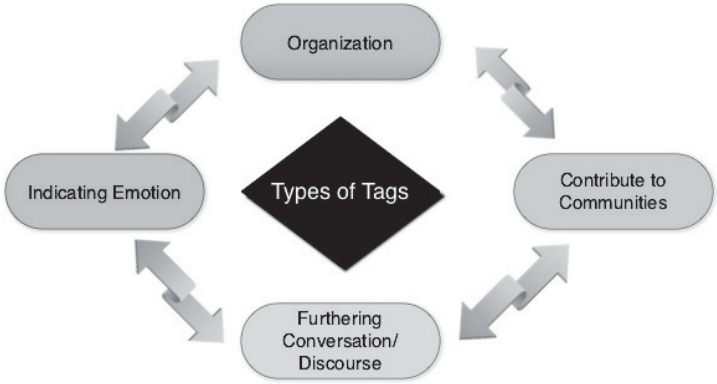

Figure 1. Visual representation of the overlapping use of tags for organization, contribution to communities, furthering conversation/discourse, and indicating emotion

Organization

Tags across platforms are a form of user-generated metadata that are used to organize and share content beyond search engines and subject directories (Lee, Goh, Razikin & Chua, 2009). This is true for both types of posts found on Tumblr. Users create their own internal tagging systems--for example, a new post may be tagged both "quotes" and "words like bullets". The first allows for the new post to be searchable within the site-wide tagging system. A second user who searches the "quotes" tag will be able to see not only the first user's post but all new posts tagged "quotes". The second user could then reblog the first user's post, placing the content on his or her personal blog.

The second tag, "words like bullets" can also be searched similarly if used a new post. However, it is more likely to be part of the first user's personal folksonomy--or "folk taxonomy" -and may be used to search his or her personal blog for similar content (Lee, Goh, Razikin & Chua, 2009). Within reblogged posts the tags only function as a blog's internal search system.

In this sense, users create their own internal tagging folksonomies for their Tumblr blog in addition to incorporating more popular tags in the effort to reach additional audiences beyond the users which follow, or track, their blog. While there are some monitored site-wide tags, such as the LOL tag, which is managed by volunteers (Alfonso, 2012), both site-wide and individual blog tags are open for interpretation and use. While this is closest to the traditional use of tags, it does contribute to the social use of tags. Without the combination of internal versus external tag searches and the searchable difference between new posts versus reblogged, the system would be unmanageable with certain posts reappearing, slightly changed by way of text or tags, thousands of times in the site-wide tag system.

Contributing to Communities

As previously mentioned Tumblr users use tags on new posts to contribute to site-wide folksonomies. These can be based on overarching themes such as photography, but are more often more specific: cities, tv-shows, and a specific breed of animal, book, or food. These more generalized tags are most often found at the beginning of a tag list because it is popularly believed that only the first five tags are searchable. Essentially, only new posts are accessible in the site-wide search system but additional contributions to a given tag community may occur after reblogging.

For example, after the Avengers movie came into theatres, the "Tom Hiddleston" tag consisted primarily of still images and discussions of his portrayal of the character Loki. A new image post may consist of the following tags, "Tom Hiddleston", "Loki", "Avengers", "Marvel", and "look at how suave his is". That image is then contributing to the un-moderated communities found in the Tom Hiddleston, Loki, Avengers, and Marvel tags. As the image is reblogged, additional commentary is added both in the text space under the image as well as in the tags--which change based on each user's preference. The additional commentary does not directly contribute to any of the communities by way of the tags, but can indirectly influence other new posts that users who follow those tags may create.

While it is considered poor etiquette to create a new post rather than reblogging a post, a user may read the expanded commentary on a post that is being reblogged and create a new post from that. An example of that may be combining images of two separate posts, with a link to the previous image use included, or posting

extended commentary originally influenced or inspired by a previous post. Through this, the specific tag communities continuously generate and share content in a cyclical manner. Post A inspires Post B which inspires Post C--and within each of those posts commentary and discourse may be generated.

Furthering Discourse

Another way tags are utilized on Tumblr is to further discourse. These tags are almost always utilized within a reblogged post, although some commentary or discourse may be found on new posts and within the site-wide tags. These tags are used as a location for furthering or stating a discourse on the post or the content that has been reblogged with the post. There are two ways these tags are used as discourse.

First, it is unspoken etiquette that responses to posts which are unpolished should not be placed within the text space but, instead, placed within the tags. This seems to be done in the attempt to avoid disrupting the original post, particularly when the reblogger is unwilling, or uninterested, in making sure their responses are publication ready--utilizing proper grammar, coherent structure, and what they may consider to be appropriate content. An example found in the Legend of Korra looked like the following: "omg" "did you see his face" "crush" "so crushed" "like the world dropped out" "from under him". The tags together simply state an observation from the cartoon but instead of putting it in the text space the tags are utilized as an out of the way location to convey both feeling and opinion.

Second, if another user agrees with the unpolished responses and ascribes value to them, they have the opportunity to copy and paste those tags into the text space when they reblog the post for themselves. This is a form of veneration or validation of those tags as appropriate for in-post discourse. These rules are only rarely stated outright and there are no onsite rules that indicate that these functions were originally intended. Instead, these are social rules that have been generated over time for how conversations may be conducted on Tumblr. Both tagging in conversation and the veneration of tags can be seen in Figure 2.

In general, conversation or discourse tags rarely overlap with organization. While the previously referenced tag "words like bullets" may seem as though it may cross over from organization to discourse, it is less common to see overlap in that area. Instead the overlap is most often found with tags used to indicate emotion.

Indicating Emotion

Outside of utilizing tags for organization and contributing to communities, users often utilize tags to indicate the emotion of the post or their emotional response to the post's content. The style is fragmented: sentences are broken up over several tags and words or phrases are often repeated (see Figure 2). While they can be utilized within or as a part of a conversation, or even as possibly useful in organization, they differ in that these specific tags may be found alone with no other tags.

Examples may be, "I can't", "amazing", "urgh", and "nonono". The tags "i can't" and "amazing" could indicate both an emotion to the post as well as possibly being a function of a user's folksonomy. "nonono" and "urgh" are more likely to simply be indicating an emotional response, which is likely to be coupled with an expansion of why. The tag "nonono" might be next to "this is terrible" in response to a depressing quote which couples the emotional response with a short discourse. None of these tags are often intended to be contributing specifically to communities, though their commentary or implication may be indirectly. In other words, there is likely no social group tracking and actively contributing to the site-wide "i can't" tag. Instead, it is more likely that the posts that are found in that tag are an incidental combination of content based on the tag being paired with other community based tags while still being within the "first five" tag parameters.

Conclusion

Although Tumblr is not the first blogging platform to have tagging utilized as a conversation and community building system, it is the first to have done so in such an expansive manner. This needs to be acknowledged, not because it is problematic--but because without taking the time to assess alternative uses of tags, aspects of their utility could be eradicated in the assumption that they are irrelevant or mistakes. For example, the tag "because this donut" from Figure 2 is liable to be categorized as text accidentally placed in the tag section if taken outside of context.

Without context it is easy to assume that certain tags are invalid--a problem that can occur not only to unusual uses of tags but also to personal folksonomies. In that specific case, removing the tags could erase a conversation, remove access to a social group or community, or destroy an individual's folksonomy.

In short, how people use tagging systems is almost as important as the system itself. Without taking into consideration the growing human element within search systems, librarians may have more difficulty assisting patrons in locating information or items. Similarly, as the user base for Tumblr continues to grow and these uses of tags continue to proliferate, these alternative uses of tags are transferred by the user base from Tumblr to other systems. By understanding what users are doing, why they may be doing it, and where the differing uses originated, other sites and systems using folksonomies may have a better chance at keeping their organization structure without it being overrun. Keeping abreast of new uses for search systems allows for innovation and less disconnect from system managers and general users.

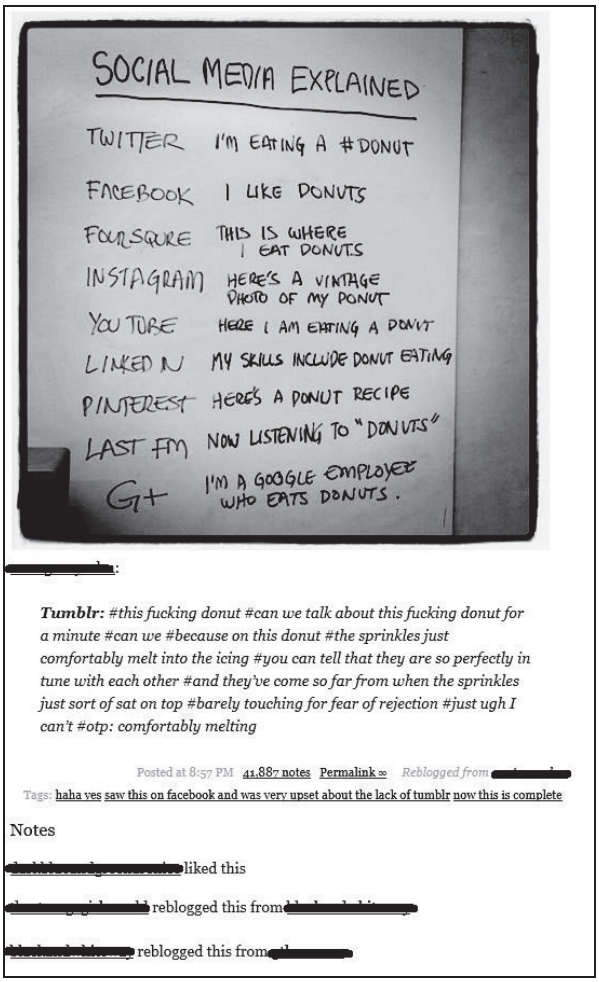

Figure 2. Emotive indication and furthering discourse in tags on a Tumblr post.

References

Alfonso, F. (2012). The 10 most popular tags on Tumblr. *The Daily Dot*. Retrieved from http://www.dailydot.com/entertainment/10-most-popular-tags-tumblr/

Hine, C. (2000). *Virtual ethnography*. Thousand Oaks, CA: Sage

Lee, C., Goh, D., Razikin, K., & Chua, A. (2009). Tagging, sharing and the influence of personal experience. *Journal of Digital Information*, *10*(1).

Panke, S. & Gaiser, B. (2009). "With my head up in the clouds" using social tagging to organize knowledge. *Journal of Business and Technical Communication*, *23*(3), 318-349.

Rainie, L. (2007). *Tagging play*. Retrieved from http://pewresearch.org/pubs/402/tagging-play

Providing Access to Textual and Image Resources: Analyzing Tagging Practices

Sonja Špiranec
Faculty of Humanities and Social Sciences, University of Zagreb, Department of Information and Communication Sciences, Zagreb, Croatia. Email: sspiran@ffzg.hr

Tomislav Ivanjko
Faculty of Humanities and Social Sciences, University of Zagreb, Department of Information and Communication Sciences, Zagreb, Croatia. Email: tivanjko@ffzg.hr

Abstract: *The process of describing and accessing different information objects in the online environment today mostly relies on different search engine algorithms and their automatic indexing methods derived from page content and structure. While this approach can produce relevant and satisfying results for different textual information objects, the difficulty in identifying the subject matter of non-textual, imaginative, or complex materials is confessed as being one of the most challenging aspects of organizing information. In order to provide access to such materials, user generated keywords have also emerged as an alternative method in describing online sources where users associate terms (tags) to information objects thus enabling keyword based classification.*

This study explores tagging approaches when different types of information sources are being tagged (textual resource vs. image). The research included a total of 80 students assigning tags on two sample resources - a scientific paper and a sample photograph. Differences between the two resources in tag assignment were analyzed with regard to number of tags and their distribution, both by using descriptive statistics and by introducing the Jaccard similarity coefficient - a metrics for comparing the tag sets created by each participant with the original keywords assigned by the author him/herself (scientific paper) or an expert indexer (image). The results showed differences that can be very important in designing tools for accessing and describing different information objects for various heritage institutions such as museums with primarily visual objects, or libraries, housing primarily textual collections.

Keywords: *Tagging, folksonomies, tag efficiency, photographs.*

Introduction

Subject analysis is the primary activity through which access to different information objects is achieved. The conceptual process of subject analysis consists of the examination of an object (or an item), determining what the object is about, and expressing this aboutness in a concise manner (Chu, 2010). As such, determining the aboutness of an object is concerned with the process or act of assigning meaning to that object and translating this meaning to others through the use of keywords and terms. The process of describing and accessing different information objects in the online environment today mostly relies on different search engine algorithms and their automatic indexing methods derived from page content and structure. The access is then enabled through a web interface that allows keyword or phrase searching that connects the user need with the relevant results. While this approach can produce relevant and satisfying results for different textual information objects, the difficulty in identifying the subject matter of an information object is confessed as being one of the most challenging aspects of organizing information, where even with the most traditional information resources, determining and identifying what an item is about can be difficult and time consuming. With non-textual, imaginative, or complex materials, the process can be even more demanding (Taylor & Joudrey, 2009). Apart from search engines that rely on algorithmic solutions, or professional indexing based on expert understanding of knowledge organization schemas and terminology in a given subject area, user generated keywords have also emerged as an alternative method in describing online sources where users associate terms (tags) to information objects thus enabling keyword based classification (Sinclair & Cardew-Hall, 2008). The use of tags can generate a "folksonomy" ("folk taxonomy"), a bottom-up, socially-generated classification that differs from the traditional top-down method of organization (Vander Wal, 2005). Although tagging can be understood as a method of indexing, according to Peters (2009), folksonomies represent a "weak" method of knowledge representation because they don't have means to express semantic relations as traditional methods such as classifications, thesauri or ontologies have. Despite these drawbacks, user generated keywords are the cornerstone of image retrieval in the online environment because the process of

indexing still requires significant human involvement (Stvilia, Jörgensen & Wu, 2012). Automatic analysis of indexing is still in its infancy because computers may be able to decode colors or certain patterns, while meaning or aboutness is still out of the scope of automatic approaches. A number of studies were conducted in order to determine efficiency of user based image indexing, (Matusiak, 2006; Jorgensen, 2007; Trant, 2007; Marlow & Naaman, 2006; Kellog Smith, 2006). Some research studies indicate that type of service and nature of resources trigger different tagging behavior. The studies are consistent in the conclusion that more research data is needed to demonstrate the potential benefits of user tagging in the domain of images.

Research

Research Aim, Sample, Materials and Methodology

Previous researches have shown that tagging behavior might depend on the type of information object the user tags. This research will try to identify quantitative and qualitative differences in tagging different type of resources; images and textual objects. The research included a total of 80 students from the Department of Information and Communication Sciences assigning tags on two sample resources - a scientific paper and a photograph. The sample was selected from 40 undergraduate and 40 graduate students, to ensure that prior knowledge of the subject or the principles of controlled vocabularies don't influence the results. To represent the textual information, a scientific paper from the field of information science was selected. The paper had a total of 8 pages, and was stripped of author keywords to exclude simple copy-pasting and ensure original user tags were assigned (http://www.sciencedirect.com/science/article/pii/S1096751608000183). As for the visual resource, a photograph depicting the main Zagreb square, Trg bana Jelačića, was selected. The photograph was in black and white, and was from the 1930s. The task of the participants was to analyze each resource and assign tags to it, with a minimum of five and a maximum of ten tags.

Results

First, the two folksonomies were analyzed using descriptive statistics. The total of 80 participants generated 1144 tags, from which 612 tags (53%) was assigned to textual, and 532 tags (47%) to the visual resource. The average number of tags describing the article was 7.65, while the corresponding number for the photograph was 6.65. It is important to mention that each participant had to assign at least 5 tags, with a maximum of 10 tags.

Further analysis showed that the folksonomy for the article generated 189 different tags (31%) while the folksonomy created in describing the photograph had 211 different tags (40%). The analysis of tag frequency distribution showed that the top ten tags (with the highest frequency) account for 44% (272) of total tags in the folksonomy describing the article, while that percentage was 36% (194) for the photograph. When those values are presented on a graph, we can see that both distributions follow the power law (Figure 1).

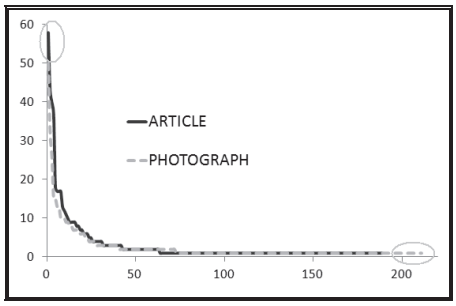

Figure 1. Tag frequency distributions compared

Although both folksonomies follow the power law curve, the comparison graph reflects differences where the article folksonomy produces a longer head and the photograph folksonomy distribution creates a longer tail. Following these results, we can conclude that participants created a more consistent folksonomy when describing the article, using fewer tags with higher frequencies. This can indicate that folksonomies describing textual resources could be more compact and produce power tags (i.e. tags with the highest frequency) that reflect the user warrant with a smaller vocabulary used.

In order to investigate how accurate participants were in expressing the subject matter of materials with tags, an investigation of semantic similarity was undertaken. Since the chosen scientific paper on which the tagging

was done had author keywords assigned to it, and the photograph was also described by an expert indexer, the basis of the measure was comparing the tag sets created by each user with the original keywords assigned by the author or the expert indexer. The comparison was carried out using the Jaccard similarity coefficient equation, a statistic used for comparing the semantic similarity of sample sets as described and used in statistical NLP (Manning & Schutze, 2003) or the field of information retrieval (Peters, 2009), and applied to analyze folksonomies (Tsai, Hwang, & Tang, 2011). The basic formula for calculating the Jaccard coefficient (Jc) is given as "Jc=Ni/(Nk+Nt-Ni)" where Jaccard coefficient (Jc) is defined by Nk (original set of author keywords), Nt (user tag set) and Ni (number of elements in intersecting set). For example, the original author keywords {academic integrity, authorship, citation, referencing, scholarly communication, social software, style guides, web2.0} when compared to the chosen user tag set {web2.0, citation, referencing, academic integrity, social bookmarking, authorship, web2.0 authoring, wiki} had 5 tags in common {academic integrity, authorship, citation, referencing, web2.0}, so the Jaccard coefficient of this user tag set was 5/(8+8-5) =0.45. The measure has a range between 0 (no intersecting elements) and 1 (data sets are equal). This procedure was done for each user and generated a total of 80 Jaccard coefficients for each resource and the averaged data for each group are shown in Table 1. By using the same method, a set of power tags (top ten tags with the highest frequency) for each resource was also compared to the original author or indexer keywords.

Table 1. Jaccard similarity coefficients compared

	All tags	**average # of intersecting elements**
Article	0.21	2.5
Photograph	0.14	1.4
	Power tags	**# of intersecting elements**
Article	0.38	5
Photograph	0.23	3

When both folksonomies were compared with original author or indexer keywords, it was shown that the article folksonomy shares more common elements than that of photograph. Since many authors advocate the use of folksonomies as a complementary method of knowledge organization by using power tags extracted from folksonomies along with controlled vocabularies (Yi & Mai Chan, 2009; Mendes, Quiñonez-Skinner & Skaggs, 2009), research identified the power tags for each of the folksonomy and compared them to the expert keywords in order to see their potential in adding new value to the resources description. When comparing the number of shared elements between power tags and the folksonomy as a whole, we can see an increase in precision when only power tags are taken into consideration. The number of elements the participants share with the author or expert indexer has risen from 2.5 to 5 for the article, and from 1.4 to 3 for the photograph. Among the top ten tags with the highest frequency in the article folksonomy, five of them were the same as one of the eight author keywords, so the term overlap was 5/8 (63%). As for the photograph, three out of six terms assigned by the expert indexer were also present as a power tag, so the overlap was 3/6 (50%).

Discussion and Conclusion

This research tried to explore the possible differences in tagging textual and image resources by including 80 participants in describing two different resources - a scientific article and a photograph. The results have shown that participants created a more consistent folksonomy when describing the article, using fewer tags with higher frequencies. This shows that describing textual resources was perhaps easier for the participants; because they already had an initial vocabulary given to them (the words in the article itself) so they could employ the copy-paste method even if their knowledge of the subject matter was limited. On the other hand, there were no such vocabulary indicators when dealing with the photograph, where the cognitive skills required for translating the visual signals into descriptive tags required additional processing specific for each participant, which generated a folksonomy with less shared terms and created a wider vocabulary base for including possible power tags. In order to investigate how accurate participants were in expressing the subject matter of materials with tags, an investigation of semantic similarity was undertaken, where the tag sets created by each participant were compared with the original keywords assigned by the author or the expert indexer by using the Jaccard similarity coefficient. When both folksonomies were compared with original author or indexer keywords, it was shown that the article folksonomy shared more common elements than that of photograph. Also, when comparing the number of shared elements between power tags and the folksonomy as a whole, there was an increase in precision when only power tags are taken into consideration. This again showed greater precision of the article folksonomy, where participants with little knowledge of the subject field, managed to describe the resource covering five out of eight terms the article author assigned himself.

These results can give additional indications that folksonomies created around textual resources could be more effective in covering the subject matter of the resource, while those created around visual resources could generate folksonomies that have fewer terms shared with those chosen by an expert in the field. The participants were able to express the aboutness of the article with fewer tags, and those tags were also more similar to those assigned by an expert in the field. Following this results we can conclude that participants were more efficient in tagging the textual resource and those original subject expert keywords were more efficient in ensuring the user warrant. On the other hand, the photograph folksonomy had more heterogeneous terms assigned, showing less consistent vocabulary and a smaller overlap with expert indexer terms. These results showed differences in user approach to textual and image resources that should be taken into consideration when designing tools for accessing and describing different information objects for various heritage institutions, such as museums with primarily visual objects, or libraries, housing primarily textual collections.

References

Chu, H. (2001). Research in image indexing and retrieval as reflected in the literature. *Journal of the American Society for Information Science and Technology, 52,* 1011-1018.

Jorgensen, C. (2007). Image access, the semantic gap, and social tagging as a paradigm shift. *18th Annual ASIS SIG/CR Classification Research*. Retrieved December 7, 2012 from http://journals.lib.washington.edu/index.php/acro/article/download/12868/11366

Kellog Smith, M. (2006). Viewer tagging in art museums: Comparisons to concepts and vocabularies of art museum visitors. 17th ASIS SIG/CR Classification Research Workshop. Retrieved December 7, 2012 from http://journals.lib.washington.edu/index.php/acro/article/view/12492/10991.

Manning, C.D. & Schütze, H. (1999). *Foundation of statistical natural language processing.* Cambridge, Ma.; London: The MIT Press

Marlow, C., Naaman, M., Boyd, D., & Davis, M. (2006). HT06, tagging paper, taxonomy, Flickr, academic article, to read. *Proceedings of the 17th Conference on Hypertext and Hypermedia*. Retrieved December 7, 2012 from: http://www.danah.org/papers/Hypertext2006.pdf

Matusiak, K. (2006). Towards user-centered indexing in digital image collections. *OCLC Systems & Services: International Digital Library Perspectives*, *22*, 283-298.

Mendes, L. H., Quiñonez-Skinner, J., & Skaggs, D. (2009). Subjecting the catalog to tagging. *Library Hi Tech*, *27*, 30-41.

Peters, I. (2009). *Folksonomies: indexing and retrieval in Web 2.0*. Berlin: De Gruyter.

Sinclair, J., & Cardew-Hall, M. (2008). The folksonomy tag cloud: When is it useful*? Journal of Information Science*, *34*, 15-29

Stvilia, B., Jörgensen, C., & Wu, S. (2012). Establishing the value of socially created metadata to image indexing. *Library & Information Science Research*, *34*, 99-109.

Taylor, A. G., & Joudrey, D. N. (2009). *The organization of information* (3d ed.). Englewood, CO: Libraries Unlimited.

Trant, J. (2007). Exploring the potential for social tagging and folksonomy in art museums: Proof of concept. *New Review of Hypermedia and Multimedia*, *12*, 83-105.

Tsai, L. C., Hwang, S. L., & Tang, K. H. (2011). Analysis of keyword-based tagging behaviors of experts and novices. *Online Information Review*, *35*, 272-290.

Vander Wal, T. (2005). *Explaining and showing broad and narrow folksonomies*. Retrieved December 7, 2012 from http://www.vanderwal.net/random/entrysel.php?blog=1635

Yi, K., & Mai Chan, L.(2009). Linking folksonomy to Library of Congress subject headings: An exploratory study. *Journal of Documentation, 65*, 872-900.

New Competencies for the 21st Century Librarian: Nonverbal Communication and Transliteracy

Werner van Wyk
University of Pretoria, South Africa. Email: werner.vanwyk@up.ac.za

Lisa Thompson
University of Pretoria, South Africa. Email: lisa.thompson@up.ac.za

Abstract: *The changing needs of the user have arisen through advances in technology, research, teaching, learning, communication and more, therefore, libraries are required to change in order to keep up with the evolving needs of their clients (ACRL, 2007; Thomas, et al., 2007). Consequently, one of the changes is that information professionals need to be "transliterate". Developing this new competency requires continuing education, which can be done using ICT. However, "new communication technologies tend to filter out important contextual and social cues" resulting in an "impoverished communication environment" which could "degrade the quality of communication,"... "Unless communicators are able to compensate for such losses" (Burgoon et al. in Mersham, 2009).*

Research was conducted during Information Organization and Representation practical presented to 2nd year Information Science students at the University of Pretoria on the influence of nonverbal communication (NVC) during classes. A combined qualitative and quantitative approach was followed. It was established that the combined NVC of the instructor and the students had a positive effect on the classes. The researchers suggest that NVC should be part of the LIS curriculum worldwide, the importance of NVC should not be ignored when developing systems and delivering services and developers need to compensate for the loss of NVC in the delivery of instruction material and interaction with users.

Keywords: *Transliteracy, nonverbal communication, e-learning.*

Background

The changing needs of the 21st Century user have arisen through advances in technology, research, teaching, learning, communication and more, therefore, libraries are required to change in order to keep up with the evolving needs of their clients (ACRL, 2007; Thomas, et al., 2007). The implication of these changes is that new competencies that were previously deemed "nice to have" are now vital for both information professionals and their users.

Amongst the new competencies required for information professionals is the need to be "transliterate", which according to Thomas et al. (2007), can be defined as: "the ability to read, write and interact across a range of platforms, tools and media from signing and orality through handwriting, print, TV, radio and film, to digital social networks". Transliteracy is a lifelong learning process which includes characteristics such as diversity, awareness, participation and flexibility. It also includes face to face communication, gestures, and expressions (Newman, 2012).

Developing these new competencies requires continuing education, which can be provided using ICT. ICT`s have modernized education, and new concepts have arisen such as eLearning, virtual learning and online learning (Punie, Zinnbauer, & Cabrera, 2008; van Brakel & Chisenga, 2003). All methods of teaching and learning are limited to a greater or lesser extent, however, eLearning educators must recognise the issues regarding nonverbal communication (NVC) in a digital environment. According to Burgoon et al. (in Mersham, 2009) "New communication technologies tend to filter out important contextual and social cues" resulting in an "impoverished communication environment" which could "degrade the quality of communication, impair working relationships, and undermine task performance compared to face-to-face interaction unless communicators are able to compensate for such losses".

These "contextual and social cues" include NVC, and the loss of these is problematic, owing to the fact that NVC accounts for about 65% of successful communication (Steinberg, 2007). One definition of NVC is "communication that indicates how verbal information should be interpreted; stimuli surrounding the verbal communication that also have meaning, which may or may not be congruent with that of or support the verbal talk. It may support or contradict verbal communication… Communication which is implicit and not expressed in words" (Wiktionary, 2011).

Purpose

In the process of turning libraries inside out, it is important that information professionals and users develop new competencies such as transliteracy. Transliteracy is "the ability to read, write and interact across a range of platforms, tools and media…" (Thomas et al., 2007). Implicit in this definition is NVC and the purpose of this article is to demonstrate the importance of NVC for information professionals.

Research was conducted during Information Organization and Representation practical presented to 2nd year Information Science students at the University of Pretoria on the influence of NVC during classes

Methodology

A combined qualitative and quantitative approach was followed. Data was collected from the sample group of 86 students, through questionnaires and observation. Convenience sampling, which is a form of Non-probability sampling, was used.

Observations were conducted during scheduled practical sessions. A total of four sessions were observed, two focusing on the instructor and two on the students. They were recorded on a Microsoft Excel program. This program was set up to include the different areas that needed to be investigated which might have had an influence on the outcome of the lecture. The areas had a number of preselected responses programmed, so that when certain behavior was observed, the influence that it had on the lecture could be seen. After all areas were filled in, the program indicated whether or not the class was a success. Formulas were applied to analyses of the results, and graphs and tables were also created using Microsoft Excel (See appendix 1).

In order to collect data from the sample group, a questionnaire was created using Google Forms, a tool that is used to create questionnaires or surveys online (Google, 2011). This form is connected to a document in Google Spread sheets into which formulas were inserted so that once the responses were returned, it calculated the results. The questionnaire consisted of 17 questions. These included:

- Multiple choice,
- Rating Scale and
- Check list questions.

The questionnaire was delivered to the students online. In the observation schema and questionnaire the categories of NVC and a number of qualifiers were used (See appendix 2). The categories of NVC include:

- Emblems,
- Illustrators,
- Affect Displays,
- Regulators,
- Adaptors,
- Posture,
- Gestures, and
- Eye Contact.

Together with the categories, these qualifiers were used to establish the extent to which NVC was used. The positive qualifiers were seen as a positive influence on communication, and vice versa. Consequently NVC was deemed to have:

- Regulated/Reinforced/Complemented,
- Replaced, or
- Contradicted verbal communication.

If verbal communication was Regulated/Reinforced/Complemented it was assumed that it would have a positive influence on the lecture. If verbal communication was "Replaced or Contradicted" it was assumed that it would have a negative influence on the lecture.

Thus, the extent to which the category was used determined the success or failure of the lecture. This is expressed in a table (See appendix 1).

Findings

During observation session 1 on the instructor it was determined that the NVC of the instructor had a positive influence overall on the lecture which led to the success of this lecture. Observation session 2 revealed the same results. During observation session 1 on the students it was determined that the NVC of the students had a positive influence overall on the lecture which led to the success of this lecture. Observation session 2 revealed the same results.

It is interesting to note that although different groups of students were observed during each session, the results were similar.

Based on the four observation sessions, it can be said that NVC had a positive influence overall on the lectures. This resulted in the positive outcome of these lectures. Thus it can be said that the positive NVC of the instructor and the positive NVC of students during a lecture had a combined positive influence on the lecture.

The questionnaire was completed by 41 students out of a class of 86. The analysis of the results based on the NVC of the lecturer revealed that the use of Gestures, Regulators, Eye contact, a Positive posture, Affect displays and Good Vocal Characteristics had a positive influence on the lectures. The analysis of the results based on the NVC on the students revealed that the use of Gestures, Regulators, Mannerisms, Affect displays and a Positive posture had a positive influence on the lectures.

Based on the analysis of the questionnaire it can be said that NVC had a positive influence overall on the lectures. This resulted in the positive outcome of these lectures. Thus it can be said that the positive NVC of the instructor and the positive NVC of students during a lecture have a combined positive influence on the lecture.

Based on the results of the observation and the questionnaire it was determined that the positive NVC of the instructor and the positive NVC of students during a lecture had a combined positive influence on the lecture.

Conclusions, Implications and Recommendations for Information Professionals

Having established the importance of NVC in face to face learning, the researchers suggest that while it is not the brief of libraries to train users in NVC, it is possible to educate information professionals; therefore NVC should be part of the LIS curriculum worldwide.

With the shift towards creating connections between people and online delivery of resources and the increase in digital service provision globally, the importance of NVC should not be ignored when developing systems and delivering services. As far as the on-going use of ICT`s in continuing education programs is concerned, developers need to compensate for the loss of NVC in the delivery of instruction material and interaction with students.

Therefore, while NVC is not new, it is a competency required in transliteracy. If we ignore NVC we are at risk of degrading all the services offered by libraries.

References

ACRL. (2007). *Changing roles of academic and research libraries*. Retrieved from http://www.ala.org/acrl/issues/value/changingroles

BusinessDictionary.com. (2012). *Non-verbal communication*. Retrieved from http://www.businessdictionary.com/definition/non-verbal-communication.html

Google. (2011). Retrieved from https://docs.google.com/support/bin/static.py?page=guide.cs&guide=27248

Mersham, G. (2009). Reflections on e-learning from a communication perspectice. *Journal of Distance Learning*, 51-70.

Newman, B. (2012). *The essential elements of digital literacies.* Retrieved from http://librariesandtransliteracy.wordpress.com/

Punie, I., Zinnbauer, D., & Cabrera, M. (2008). *A review of the impact of ICT on learning*. Luxembourg.

Steinberg, S. (2007). *An introduction to communication studies*. Cape Town: Juta & Co.

Thomas, S., & et al. (2007). Transliteracy: Crossing divides. *First Monday*.

van Brakel, P., & Chisenga, J. (2003). Impact of ICT-based distance learning: The African story. *The Electronic Library*, 476-486.

Wiktionary. (2011). Metacommunication. Retrieved from http://en.wiktionary.org/wiki/metacommunication

Appendix 1

Table 1. Observation session 1 (S)

Evaluation of Students: 2011/08/29 - 10:30				Influence on the lecture
Emblems used:	In a small amount	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Illustrators used:	In a small amount	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Affect displays used:	In a small amount	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Regulators used:	Adequately	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Adaptors used:	Too much	Results in Verbal communication being	Replaced	Negative
Gestures used:	Adequately	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Making eye contact:	Adequately	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Proxemics used:	In a small amount	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Haptics used:		Results in Verbal communication being		
Chronemics used:	Incorrectly	Results in Verbal communication being	Contradicted	Negative
Posture displayed:	Positively	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Personal Appearance displayed:	Positively	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Quality of vocal characteristics is:	Bad	Resulting in Verbal communication being	Replaced/Contradicted	Negative
			Outcome of lecture	Successful

Table 2. Observation session 2 (S)

Evaluation of Students: 2011/08/29 - 06:30				Influence on the lecture
Emblems used:	In a small amount	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Illustrators used:	In a small amount	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Affect displays used:	In a small amount	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Regulators used:	Adequately	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Adaptors used:	In a small amount	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Gestures used:	Adequately	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Making eye contact:	Adequately	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Proxemics used:		Results in Verbal communication being		
Haptics used:		Results in Verbal communication being		
Chronemics used:		Results in Verbal communication being		
Posture displayed:	Positively	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Personal Appearance displayed:	Positively	Results in Verbal communication being	Regulated/Reinforced/Complemented	Positive
Quality of vocal characteristics is:	Good	Resulting in Verbal communication being	Regulated/Reinforced/Complemented	Positive
			Outcome of lecture	Successful

Appendix 2

Qualifiers	Description
Adequately	Carries over enough meaning to increase understanding up to the maximum level possible
All the time	On a continuous basis.
Bad	A low standard, lots of interferences, unclear, too soft, tempo to fast
False	Something that cannot be taken as fact
Good	A high standard, no interferences, loud and clear, correct tempo
A small amount/ Only a little	Carries over some meaning, increases understanding but not enough to ensure that there is no confusion
Incorrectly	Inappropriately or in the wrong order. The nonverbal communication does not match the verbal communication
Negatively	Distracting, inappropriate, and unpleasant to look at
Never	None at all.
No	Not agreeing with.
Positively	Not distracting, appropriate, and pleasant to look at.
Sometimes	From time to time, now and then.
Too little	Carries over some meaning, but not enough to ensure that there is no confusion.
Too much	Carries over so much meaning that it creates confusion. Attention is distracted from the verbal communication and places focus on the nonverbal communication.
True	Something that can be taken as fact.
Yes	Agreeing to.

Appendix 3

Summary of the categories of nonverbal communication (Steinberg, 2007);

- Emblem: A movement connected to a specific meaning.
- Illustrator: Nonverbal images or signs used to emphasize / explain.
- Affect Displays: Emotions displayed on the face.
- Regulators: Signs used to regulate and control the flow of communication.
- Adaptors: Movements to control one part of the body by using another part.
- Posture: Image one has of oneself.
- Gestures: Physical movements made by using head, hands, arms and legs.
- Eye contact: Transfer of information via the eyes.
- Proxemics: Different special zones. / Different perceptions of space.
- Haptics: Transfer of information by means of touch, or the lack thereof.
- Chronemics: Use of time.
- Personal appearance: The way other people see you.
- Vocal characteristics: Voice, pitch, volume of speech.
- Vocal interferences: Uhm, Ahh

Methods of Critical Thinking: University E-learning Course

Adéla Ťažká
Pod Javory 2, Blansko, 678 01, Czech Republic. Email: adela.tazka@gmail.com

Lucie Dvořáková
Dolní Loučky 96, 594 55, Czech Republic. Email: 327463@mail.muni.cz

Abstract: *The aim of this article is to introduce a student project named Methods of Critical Thinking that was created under the patronage of Division of Information and Library Studies at Faculty of Arts, Masaryk University in Brno. The purpose of the project was to create an e-learning course that would introduce methods of critical thinking to university students and that would help them to use these methods practically in their studies and during writing their theses. Furthermore, this course should make it easier for students to study texts and help with school work. Within this unique project a research was carried out, which aimed to find out about the existence of similarly focused e-learning courses in Czech and foreign universities. Moreover, via questionnaires an interest about this course was explored among the students at Faculty of Arts, Masaryk University, in Brno. The course was created during the spring term 2012 and was made accessible to the students of Information and Library Studies at Faculty of Arts. The course is currently offered as an optional subject to all students of Masaryk University. With the help of feedback from the students, an improvement and enhancement of the course is currently being made.*

Keywords: *Critical thinking, e-learning, student projects.*

Introduction

The aim of this article is to introduce a student project called Methods of Critical Thinking that was created under the patronage of Division of Information and Library Studies at Faculty of Arts, Masaryk University in Brno. The purpose of the project was to create an e-learning course that would introduce methods of critical thinking to university students and that would help them to use these methods practically in their studies and during writing their theses.

The course was created in spring term 2012 and was tested on the first year students of Information and Library Studies the next term. The course currently appears on the list of optional subjects for all of the students of Masaryk University. In autumn term 2012 there was a huge interest among the students in enrolling into course; unfortunately even at capacity of 250 participants we were not fully able to satisfy all applicants. In a questionnaire research over 1200 students of Faculty of Arts showed their interest in participating in the course. This fact outlines the bright future of the course. The future vision is to extend the course beyond the Masaryk university for example among professional librarians or other universities with appropriate adjustment for chosen target groups.

Mission of the e-course is to approximate methods of critical thinking to university students in a way that would help them improve following activities:

- read and understand scientific papers and academic texts
- select relevant facts from scientific papers and academic texts
- critically evaluate obtained information and check their validity in multiple resources
- improve listening skills during lectures
- separate fact from opinion
- present his/her own analysis of the data or information
- construct cogent arguments rooted in data rather than opinion
- take into account other people opinions
- create suitable conditions for studying
- identify weak and strong arguments
- be able to form hypotheses
- be able to organize and visualize own thoughts and concepts
- use many inspiration methods while writing scientific papers

- look at the problem from different perspectives
- be able to structure scientific paper in the right way (make outline, abstract etc.)
- critically evaluate own work
- be able to present the results of scientific activities

The above mentioned list of skills should help the students make their university studies easier. Students should be able to improve the quality of their scientific papers and their study results and furthermore enhance their skills needed for their future professional life. If the course is optional and accessible for all students of Masaryk University, it might be expected that the quality of academic papers or theses will be higher at all of the university faculties. This may lead to the skills improvement of university undergraduates and to achieving even stronger position among significant universities in the Czech Republic and in Europe.

Within this unique project a research was carried out, which aimed to find out about the existence of similarly focused e-learning courses in Czech and foreign universities. Moreover, via questionnaires an interest about this course was explored among the students at Faculty of Arts, Masaryk University, and Brno. The outcome of this research clearly pointed out that there is a gap in curriculum of universities, which lack e-learning courses directed at critical thinking. The research furthermore showed an interest of potential users in the course, among the students of both various subjects and years of study. It also discovered problematic areas that students are mostly confronted with during their studies or while writing a thesis. These findings helped to shape the content of the course.

Critical thinking is a thinking based on exchanging thoughts, tolerance, attentive listening to others and taking responsibility for one's opinions. In 1997 an international project RWCT (Reading and Writing for Critical Thinking) was established, which deals with the issue of critical thinking. Our course is based on the Czech version of RWCT project, which was put into practice by a citizens association called Kritické myšlení (critical thinking in English). However this association is focused primarily on teachers of primary and secondary schools, which shows that with our course aimed at university students we cover a rather large scope of educational system and we focus on a group that did not come in contact with critical thinking during their primary or secondary school studies.

The course contains twelve parts, which are devoted to particular aspects of critical thinking. The first part focuses on introduction to critical thinking and its history. Furthermore it includes an insight into the learning processes and introduces E-U-R model of learning (evocation-awareness-reflection), which constitutes the backbone of whole conception of critical thinking methods. Students can also find practical recommendations and advices how to create suitable conditions for learning, how to prepare for lectures and how to improve listening skills. The second part of the course focuses on many different methods and creative techniques for development of critical thinking such as brainwriting, mind maps, t-graf or cubing method. The choice of methods and techniques presented is adjusted for teaching a single student, since the teaching cannot be realized in face-to-face lessons. E.g. brainwriting, which is generally known as the method for creating new ideas in certain group of people, is in our course modified to be used by only one person (the principle of limited time).

The first half of the course also contains basics of the art of argument where the students are acquainted with basic terminology and on examples they learn how to work with arguments, create hypotheses, and distinguish between induction and deduction and between a simple statement and argument. In the end of this part students are able to write an argumentative essay, they know how to use the arguments in a best way and how to create strong arguments, thesis and conclusion in their academic texts.

The second part of the course focuses on practical methods supporting reading and writing of academic papers and mainly methods for making notes during reading of scientific papers or books and methods of text structure during writing a paper. Thanks to the methods supporting academic reading and writing, students are able to extract key and relevant information for their work or study. These methods are besides other things based on valid formal rules of academic writing.

The list of methods used in our course, where each of them develops students' skills and faculties can be found in the following table:

Table 1. List of methods used

Method	Skills development
Brainstorming, Brainwriting	generate many new ideas to a problem
Inspiration from the picture	think about a problem in a creative and nontraditional way
Cinquain (pětilístek)	summarize theme and attitudes
Cubing (kostka)	think about problem from different perspectives
Mind maps, Conceptual maps	visualize and organize concepts of the topic
Know - Want to know - Learnt	raise an interest about the topic, organize knowledge and remember more information
I. N. S. E. R. T.	effectively sort relevant information
Dual entry diary (podvojny denik)	select important claims and comment the problem
T-graf	represent and compare the pros and cons of a problem
Venn Diagram	distinguish specific common and different features of two or more phenomena compared
Free writing	get rid of the blocks, develop creativity
Writing in the pace	automate the process of writing, spontaneously express ideas
R/A/F/T (role, audience, form, topic)	use different styles of writing with regard to the addressee
Argumentative essay	express clearly an opinion, argue in favor of an opinion, prevent the objections of opponents
Where my topic sits; me and my topic	creatively express my relationship with topic
Nomen omen	realize the nature of the problem
What would be if …	emotionally enrich our text and give it a new dimension
Proverb gives a clue	introduce our work in one sentence
Monolog of my text, A letter to my text	clarify the relationship between the writer and his text

Most of the lessons are supplemented by practical tasks. Thanks to these tasks students can immediately put into practice methods and techniques they just finished learning and adopt them very easily. The part concerning the art of an argument contains many exercises supporting logical thinking and students learn how to spot deception and holes in the arguments of others and how to logically and cohesively organize the argument.

What the process of creation of the e-course concerns, we set a schedule and processed our work according to it. At first we asked a representative of citizen's association Kritické myšlení to provide one day workshop for us and introduce some of most widely used methods for us. Based on the knowledge gained from this workshop and the literature recommended by the representative herself we started to work on creating the course outline and then on creating of study materials. The main resources the course is based on can be found at the end of this article in references. Meanwhile we also organized student's competition on polygraphic high school in Brno. Local students competed in creating the best logo for our course. The author of the best one won 3000 CZK. We also hired a professional graphic designer to create other graphic elements and icons in the course, including an animated picture of a course guide. After finishing all study materials and all additional elements we implemented the course into LMS Moodle, where it was made accessible for Masaryk university students. The project team is now focusing on tutoring, communication with students and last but not least on enhancing the course for next term.

Future enhancement of the course will include additional interactive elements, such as videos with instructors, podcasts with interviews, additional recordings to study texts and the expansion of materials. The sustainability of the course is guaranteed at least one year.

We can easily imagine that a similar course could be created in other countries as well. We would be pleased if we could inspire other students through this project to create more projects related to this topic - introduction of critical thinking principles to the academic field. We believe that critical thinking is an important skill for a contemporary university student, who wants make it big in future employment and life.

Experiences and Opinions: Teaching Staff and Students about Digitization Education

Noémi Horváth
Szent István University, Faculty of Applied Arts and Pedagogy, Hungary. E-mail: noemi.horvath.x@gmail.com

Tibor Koltay
Szent István University, Faculty of Applied Arts and Pedagogy, Hungary. E-mail: Koltay.Tibor@abk.szie.hu

Ferenc Jávorszky
Szent István University, Faculty of Applied Arts and Pedagogy, Hungary. E-mail: Javorszky.Ferenc@abpk.szie.hu

Mária Barabás
Szent István University, Faculty of Applied Arts and Pedagogy, Hungary. E-mail: barabas.m.viktoria@gmail.com

Krisztina Árvay
Szent István University, Faculty of Applied Arts and Pedagogy, Hungary. E-mail: chibi_fox@yahoo.co.uk

Abstract: *This paper presents the experiences of undergraduate digitization education in a Hungarian school of Library and Information Science. The underlying philosophy of the course, described here, was that students, who participate in digitization courses, are required to demonstrate the ability to make decisions on digitization initiatives, because decision making and careful planning should dominate digitization. Our account is two-faced by reflecting on how members of the teaching staff envisaged the course content and what lessons they could learn from the seven years' of experience with it. This is supplemented by a portrayal of the experiences and opinions of some undergraduate students, who already have completed the course. The study is of exploratory nature as the discussion is based on opinions of the teaching staff members involved in the course, while it also reflects impressions of some students.*

Keywords: *Digitization, LIS education, Hungary.*

Introduction

Digitization is an inseparable part of resource management activities of libraries, archives and museums as it can contribute to an expansion of access to the collections and it is one of the main methods to preserve original documents for future generations (Manžuch, 2008).

Keeping this in mind, the Department of Information and Library Studies, which provides undergraduate (B.A.) education in Library and Information Science at Szent István University, Faculty of Applied and Professional Arts, Jászberény, Hungary has been offering digitization courses since 2005. The digitization course is mandatory both for full-time and part-time students, independently of their specialization.

The underlying philosophy of the courses has been that students, participating in digitization courses are required to demonstrate the ability to make decisions on digitization initiatives, because decision making and careful planning should dominate digitization.

This is in accordance with the opinion, expressed by Manžuch, Huvila and Aparac-Jelušić (2005), who point out those students, who participate in digitization courses, are required to demonstrate the ability to make decisions on digitization initiatives.

Methods

This paper presents experiences of digitization education in a Hungarian school of Library and Information Science. It reflects how members of the teaching staff, who planned and executed the course, envisaged its content and what lessons they could learn from the seven years' experience in project-based digitization education. It also contains reflections on the experiences and opinion of some undergraduate students, who already have completed the course in the second year of their 3-year studies.

As no systematic survey of the student group of 12 was carried out, the study is of exploratory nature. The paper reflects instead beliefs and experiences of both teaching staff and students. The reflections of a part of the student population are directly included. Some other student opinions are the result of a focus group like conversation conducted with all students concerned.

Findings

Teaching staff members think that the most serious challenge is to make digitization education based on real life tasks. This is especially true in the theoretical part of the course, even though the experience of the teaching staff shows that the enthusiasm and fantasy of students diminishes the perception of doing something artificial.

Many project teams have done marvelous work that teaching staff members could not imagine when this course was started. There is even some hope that a few of the projects done by our part-time students can become real-life ones that materialize in their home institutions: libraries and information centers.

The "playground effect" that comes from the artificiality of the projects has its advantages first of all thanks to the freedom that can be expressed as follows: You can buy whatever devices you need. There is no limit to you procurements. (In reality they cannot buy anything, while they can plan to buy everything.)

Despite of these "unlimited" sources, students felt that they planned realizable projects. This fact is important for the development of their sense of reality in the profession. Emphasis from the side of the teaching staff members is always put on the importance to procure the appropriate devices, because inexpensive, low capacity and little efficiency tools may hinder the compliance of the goals, results in needless or redundant work, which means irresponsible management on the long run. Students feel that they can get acquainted with some of the devices that are designed for professional use and are up to date.

Making students acquainted with "real life" is done by following the "Seeing is doing" principle that is visits to different library digitization laboratories are organized.

The problem of balancing between artificiality and realism seems to come partially from the project-based nature of the education. The issues of documenting and evaluating the digitization workflows and sharing the experiences are closely related to this problem. While digitization projects may be infamous for neglecting the documentation and evaluation phase (Dahlström & Doracic, 2009) we require our students to prepare a short planning document that identifies the documents to be digitized. This is followed by a detailed project plan.

Theory or Practice

Besides the challenges, digitization education poses the question if it should be a pure hands-on training or a purely theoretical and descriptive course. The best choice seems to be to vote for a combination of these (Dahlström & Doracic, 2009). This approach was taken when introducing digitization courses at our department, as well. Experience of the teaching staff shows that it was a good decision. The coursework thus consists of a theoretical and a practical part, harmonized but running in parallel. Obviously, there is no experience to verify the soundness of this argument. Besides the fact that teaching staff members are convinced by their experience, students did not indicate the presence of difficulties in this regard. In addition to this, students noted that the practical part of the course gives them a hands-on feeling. Some of them, however, feel that the volume of practical training is low, thus there is a need in adding more practice as it is indispensable in acquiring useful knowledge and skills.

Students support project based approaches if they are substituting the study of theoretical subject matter. One of the most important theoretical issues is copyright, even if the projects are not real-life ones. Getting acknowledged with real projects helped the students to a substantial extent in preparing their own projects.

Project-based education has the advantage to move issues into the foreground that would not appear in traditional lectures, though they would be extremely important. As mentioned by some students, such an issue is planning along marketing preferences. Students are namely required to demonstrate the practical application and benefits of their planned projects, as well as identify their target audience and elaborate on public relation aspects.

As to the practical carrying out the philosophy of focusing on project management, students are of the opinion that positive feedback and criticism are important. These signals should come from both the teaching staff and the students, who think that the comments of their classmates also have weight. Most students appreciate differing opinions and they often discuss each other's work.

A real hand-on work is at the end of the practical part of the course. Each student completes a "masterpiece", which means that they digitize documents of different formats and save the results in different formats.

Project Management

The original reason for treating digitization as a project management issue approach was that is not yet a traditional, routine activity in libraries. It is also expensive, thus it needs to be controlled by project management tools. However, project management is built in to the course less as a theoretical subject, than in a form of following advice and good practices. The question is if this approach is still valid.

On a general level, we can ask if digitization can be singled out from other work processes as an important constituent of library work and does it have to be a separate unite in LIS education. Some of the students think that it is not important to treat it separately as it will become routine activity and this fact eliminates the necessity to treat it as a project management issue.

Staff and the majority of the students believe that project management acquires especial importance when teaching digitization, even though we concentrate on its theoretical background less than on practical planning. Students are of the opinion that knowledge and skills can be acquired properly and will last longer if attained by someone's own work, especially in projects. This is in accordance with the staff's expectations.

At the same time students put criticism into words, saying that they miss opportunities to practice leadership in other courses of the curriculum. A typical leadership issue is the division of labor. To carry it through requires substantial practice. Notwithstanding, students' opinion is that their mates are enthusiastic about this work, because planning quickens their fantasy and creativity. They also feel motivated by the fact that they have "unrestricted finances" in their projects, because the lack of real financing does not dictate to restrict themselves by a budget. They are required only to plan as reasonably as possible.

Qualitative Digitization

Although the course concentrates on qualitative, critical and selective digitization, we cannot pretend that large scale digitization projects, especially the Google Book Search project (http://books.google.com/) do not exist.

Critical digitization projects, as identified by Dahlström, Hansson and Kjellman (2012), are more exclusive than their mass digitization counterparts. A critical digitization project might devote its resources to a single document, which eventually may need to be edited or commented upon by experts in order to make sense in its new digitized context. Such projects are qualitative as they concentrate on the uniqueness of the originals, and produce representations that are intended to be faithful and exhaustive to the original artefact, providing the representation with rich metadata, indexing, descriptive text encoding and literary interpretation by experts.

This is the background and the reason for addressing questions of source text quality. It has to be added that this question seemed to intrigue our students to a lesser degree.

Digitization is often approached as an issue of preservation of cultural heritage, though historical and cultural value of the documents should not be the sole criterion for significance, because other features, like subject should also be considered (Manžuch, 2008). This aspect also pertains to the qualitative side of digitization that is emphasized in the course.

Students feel that one of the most serious problems is giving answer to the question: What should we digitize? Should user needs be satisfied or national culture mediated. They are of the opinion that there should be a balance between the two. Both are needed and we do not have to forget that culture is born by everyday needs.

Projects and Digital Libraries in the Background

Digitization education takes place on the background of digital libraries. The choice of projects and digital libraries to be visited is totally in the hand of the teaching staff. The foundations for this choice are given by the fact that a substantial number of these resources have been covered in the preceding two semesters of the class "Reference, information sources, systems of information retrieval".

One of the students expressed the opinion that many of our national resources - also enumerated by Koltay (2012) -play an overly important role for library users in Hungary. As said, these services were not absent from the course. Nonetheless, some of them may acquire more importance in the future content of the digitization education. In particular the Hungarian Digital Library, the Digital Literary Academy and the Electronic Periodicals Archive & Database have to be mentioned in this regard.

The Hungarian Digital Library (MEK, http://www.elib.hu/ is one of the earliest Hungarian digital libraries. It holds 10574 documents (November 12, 2012), is). Its history began in 1994, when a few enthusiastic librarians began to build a digital library collection of public-domain Hungarian texts for educational, scientific research, and cultural purposes, as well as belles lettres. This initiative was first endorsed by the National Information Infrastructure Development Program and in 1999 became part of the collections of the Széchényi National Library.

The Digital Literary Academy (http://www.pim.hu/object.90867f8f-d45e-40f9-8a6b-fe0034f0db87.ivy) was established in 1998 and contains the complete digitized works of 74 Hungarian contemporary writers and poets.

The Hungarian Periodicals Table of Contents Database (MATARKA, http://www.matarka.hu/) offers not only searching and browsing of 1327 titles (November 12, 2012), but provides personalized SDI services. This database is linked to the Electronic Periodicals Archive & Database (EPA, http://epa.oszk.hu/), which points towards 1260 periodical titles, 405 of which are hosted by EPA.

Conclusion

Although this program is only one of several ones, offered in Hungary, the lessons learnt in the past years can be useful for digitization education in other institutions, as well. Taking the universal nature of digitization into consideration, our experience can be of good use internationally, as well.

In the future there will be a need to direct attention to the conclusions drawn from the experiences, related to the acquisition of library management systems in Hungary. These early years left an extremely fragmented network that consists of a number of different library management systems. Digitization seems to have to be fallen into the same pitfall. Despite central financing, the initiatives have been mostly isolated. This dictates that the education to digitization should address the issue of cooperation and harmonization.

In our course we raise the question that should be considered by any librarian of the 21st century. It sounds like this: Do we cause harm to library services by extensively digitizing library material? We already experience diminishing interest to visit libraries? Will digitization reinforce this tendency?

Although it is contested that the number of library visitors decreases, our answer is clear-cut: If people do not come to the library, the library should go to their homes and this can be done only in digital form (Bánkeszi, 2010).

As said above, our study was exploratory. This dictates that it should be continued by collecting data (be it quantitative or qualitative) on a more systematic basis.

According to an optimistic student opinion, the modern knowledge and skills, acquired during the course can be used to go on with widening the scope of services, based on Hungarian national digitization projects. Let it be so.

References

Bánkeszi, K. (2010). "Digitalizálni, de..." Érvek és ellenérvek, félelmek és remények. *Tudományos és Műszaki Tájékoztatás*, *57*, 275-282.

Dahlström, M. & Doracic, A. (2009). Digitization education. Courses taken and lessons learned. *D-Lib Magazine*, *15*, Retrieved November July 12, 2012 form http://www.dlib.org/dlib/march09/dahlstrom/03dahlstrom.html

Dahlström, M, Hansson, J. & Kjellman, U. (2012). 'As we may digitize': Institutions and documents reconfigured. *Liber Quarterly, 21*, 455-474.

Koltay, T. (2012). Digitization education in Hungary: An example. *Knjižnica*, *56,* 217-230.

Manžuch, Z. (2009). Monitoring digitisation: Lessons from previous experiences. *Journal of Documentation*, *65*, 768-796.

Manžuch, Z., Huvila, I. & Aparac-Jelušić, T. (2005). Digitization of cultural heritage. In Kajberg, L. and Lørring, L. (Eds.), *European Curriculum Reflections on Library and Information Science Education* (pp. 37-64). Copenhagen: Royal School of Library and Information Science.

Breaking Down the Barriers: Creating Empathetic Ontologies for LAMBDA Initiative

Frances Nichols
School of Information Sciences University of Tennessee, Knoxville, USA. Email: fnichol1@utk.edu

Edwin Cortez
School of Information Sciences University of Tennessee, Knoxville, USA. Email: ecortez@utk.edu

Abstract: *The library is facing the issue of an emerging underclass of society bereft of technology at home in a predominately digital age. Among this burgeoning group of Lesbian Gay Bisexual Transgendered and Questioning (LGBTQ) individuals who are homeless and need the services provided in the library for living within this highly virtually-connected era. As an institution, the public library is metamorphosing from its traditional boundaries to a wider function as heart of the community for the socially marginalized youths. Public libraries identified the social obligation to aid disenfranchised LGBTQ youth and to offer a positive path to becoming self-sufficient, happy, productive citizens. Using the social knowledge of the structures of language vernacular of LGBTQ through empathetic ontologies within the Open Public Access Catalogue (OPAC), the library can create a welcoming, positive, and useful environment. The Libraries as Models for Building Diversity Achievements (LAMBDA) project addresses the issue of educating the librarians to the sensitivities of the LGBTQ community. The pilot program for LAMBDA is a joint effort of libraries within the cities of San Francisco, CA and Knoxville, TN. This paper argues that a constructed ontology is needed for this target group of the homeless youths (18-25) who are LGBTQ; it describes how to create an empathetic ontology as a navigation tool to engage the LGBTQ community and its usefulness within the LAMBDA initiative.*

Keywords: *Ontology, LGBTQ, LAMBDA, homeless youth.*

Introduction

Homeless youth, predominately those who are Lesbian Gay Bisexual Transgendered and Questioning (LGBTQ), are frequenting the library more however the Online Public Access Catalog (OPAC) often fails to be an easy user-friendly resource. The search categories are monolithic, academic, and sterile to the vulnerable and disenfranchised youth. Traditionally, the OPAC is a product of many years of work in organization and by the time a vernacular term is adopted into the system it is often times completely out of vogue. The reasons for this are because the OPAC's retrieval system is driven by a controlled vocabulary -an artificial language created for the uniform description, indexing, and retrieval of documents in a given collection. The primary purpose of the controlled vocabulary is to compel adherence to a standardized form of description of documents and of their subject contents. The same controlled vocabulary is then used to create an inverted file in which individual item records are posted to one or more of the controlled vocabulary terms. More often than not, the controlled vocabulary takes the form of a thesaurus, which contains standardized terminology, and is displayed, for consultation, in a uniform alphabet with an explicit hierarchy. Hence, the engineering behind the OPAC causes it to be static, process driven and less responsive to dynamic user searching needs (Cortez, 1999). Traditionally, the OPAC is a product of many years of work in organization and by the time a vernacular term is adopted into the system it is completely out of vogue. Ontologies should reflect the necessities of the patron. Although it is impossible from a budgetary and time standpoint to completely overhaul an OPAC for the caprice of youthful expressions, it is possible to create empathetic ontologies, which could help this group feel welcomed in the library. This could encourage them to navigate within the larger society, and eventually discover their identity.

The Issue

The homeless youth population in the United States is growing every year. The reasons for leaving home are as varied as the individuals who become homeless. The United States Interagency Council on Homelessness reported, "Youth often leave home as a result of a severe family conflict which might include physical and/or sexual abuse". A U.S. government sanctioned agency, The National Runaway Switchboard, conducted interviews with runaway youth and found that runaways considered themselves to be, "a lost child in need of help; looking for a better chance; living on my own; I feel like I wasn't accepted; I was disowned; neglected;

traveler; street kid; and homeless" (2010, p.9). In the United States, there are over eight types of government resources that service the medical and physical needs of the homeless youth population (Wood et al. 2009), but a greater part of the issue of homeless youth lie in a mistrust of governmental institutions which often have marginalized their plight and reduced them to a statistic. Research regarding this population and the LGBTQ youth is well documented in the soon to be published work of Julie Winkelstein (2012) who is key in developing the idea for the LAMBDA initiative. The LAMBDA initiative is a joint program to educate librarians about better ways to address and act towards the vulnerable LGBTQ homeless youths within the library setting. However, the problem lies not only with the education of librarians but in the construction of the OPAC. The OPAC problem could be alleviated through the creation of empathetic ontologies.

The OPAC is a product of the biases and thoughts of the original creators. Hope Olson argues, "…the library catalogue is not a neutral tool. That it is constructed… [It] selects [social] values for expression" (2002, p. 2). The evidence of bias (sexism and racism) within the library cataloguing system is well documented within scholarship. Since the 1970s, notable authors such as A.C Foskett, Joan Marshall, Sanford Berman, and Elfreda Chatman address this issue (1984; 1972; 1984; 1996). Chatman and Olson engage the ongoing discourse by building on the assertion that those who are information poor are excluded from our information systems (Olson, 2002). Olson takes it one step further by convincingly arguing, "…subject access to information outside of our traditional cultural mainstream and for groups marginalized in our society is disproportionately affected by the fundamental presumptions on which our practice of subject representation rests" (2001, p. 640). The homeless LGBTQ youth are excluded from information systems Olson describes.

The homeless youth that are LGBTQ need a way to connect back into the community through interaction, one key way of accomplishing this by creating a dialogue by means of empathetic ontologies. The authors of Inquiring into the Real: A Realist Phenomenological Approach argue "The basics of the dialectic entail recursive interaction between society and the individual" (Budd, Hill & Shannon, 2010), and a dialogue will open when the underserved population feels welcomed in the library environment. An ontology that addresses the needs of this population is needed. Ontologies are important at conveying societal norms "Society carries its own ontological meaning" (Budd, Hill & Shannon, 2010). This is why it is important to use language that the LGBTQ are comfortable with the ontology.

Constructing a Crosswalk Ontology

Crosswalk ontology can be constructed through Winkelstein's research of common word usage from interviews of homeless LGBTQ youths using Noy and McGuinness' model of creating ontology for declarative frame-based systems (2001). The domain is defined as the manners in which the LGBTQ refer to them or their situation with the scope being the most commonly searched topics of the LGBTQ. Utilizing a top down approach, the ontology is built with the common search term and referenced by words from Winkelstein's interviews of natural speech.

For instance, the search for 'sexual identity' is followed by 'preferred gender pronoun' and subdivided into 'queer', 'lesbian' and 'gay'; 'bisexual', 'transsexual' and 'homosexual'; 'questioning'; and 'heterosexual'. Figure 1 below illustrates this concept.

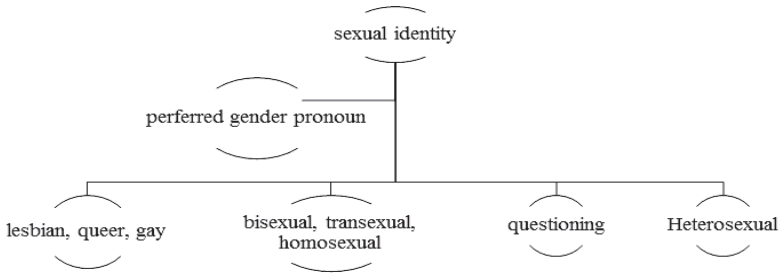

Figure 1: Identity search with adjusted ontology

In this approach, 'identity' mirrors how the LGBTQ see them and affirms their connection to the community. Another manner is to gain back trust for governmental programs, society in general, and to create relationships with those who are potential friends and allies. For instance, the search for 'trust' is followed by

'relationships' and subdivided into 'emancipated youth', 'adult ally' and 'juvenile justice'. Figure 2 below illustrates this concept.

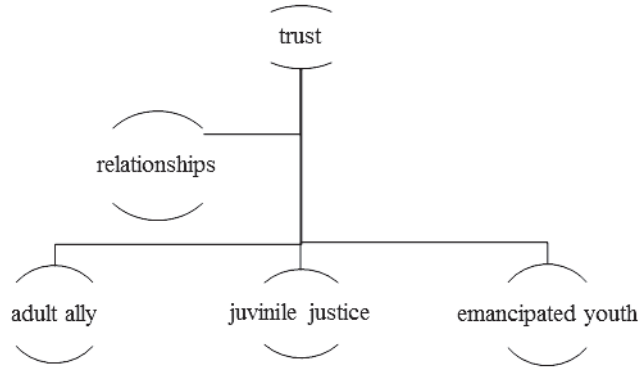

Figure 2: Trust search with adjusted ontology

Identity and attitudes are important facets of the youths' perspective, but they also face practical needs such as permanent housing. A proposed search for 'housing' is followed by 'shelter' and subdivided into 'group home' and 'emergency housing'; 'transitional housing' and 'continuity of care'; and 'safe space'. Figure 3 below illustrates this concept.

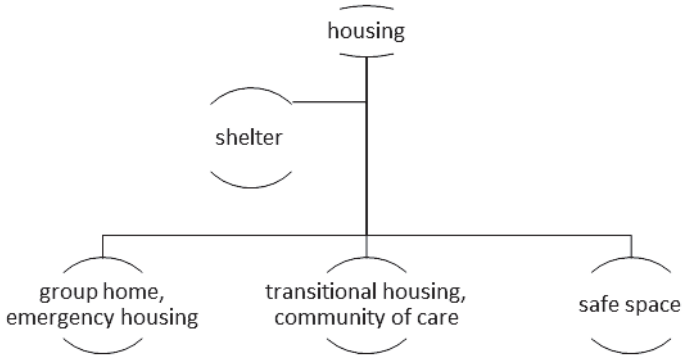

Figure 3: Housing search with adjusted ontology

Providing crosswalks of natural speech is the beginning step to reaching out to LGBTQ youth. The second part of the proposed crosswalk ontology is to suggest references, which may help rehabilitate the youth back into society. Much like the biblio-therapy pioneered in the 19360s and tempered in the 1960s, the ontology could suggest information with a positive and hopeful bent. Bibliotherapy is defined as healing through literature (Smith, 1989) by using reading to foster an understanding of self as a form of therapy (Wilson, 1984). LGBTQ, arguably, have a great amount of self-discovery because they exist counter to the existing social paradigm of 'normal'. Embedding bibliotherapeutic choices in OPAC searches affords a more private manner for discovery without the potential embarrassment of seeking books in a highly advertised gay and lesbian section or in a marginalized corner of the library where the section exists. Seeking books in either location could potentially cause anxiety of public censure. Werner discovered that books used in bibliotherapy for gay and lesbian teens should be about "problems obviously similar to those readers contain characters with whom they are able to identify, or describe situations with which they see a connection to their own lives"; however, Ware and Norton further the idea by adding the need to provide books that address gay and lesbian needs directly (1989; 2004, p.191). For example, the LGBTQ youth's desire to refer to themselves as 'resilient' rather than 'at risk', would have the 'resilient' search as the 'at risk' category and provide positive books of a hero triumphing against seemingly insurmountable odds such as David Copperfield, Percy Jackson, Robinson Caruso, etc. The carefully chosen selections act as a silent advocate for the LGBTQ, by aiding in their self-discovery and rehabilitation back into society.

Discussion

The plight of the homeless LGBTQ youth is a complicated issue that affects the library since it is used as a gathering place for this marginalized group. The LGBTQ are recognized by the LAMBDA initiative as a marginalized group that has been alienated and underserved by the library system. The program opens the libraries to the marginalized parts of society through the education of librarians and library workers. A crosswalk empathetic ontology can work well with this initiative, because empathetic ontologies constructed from collected natural vocabulary from the LGBTQ youth are a way to facilitate a welcoming and friendly environment to those who rarely feel as they find kindness in society. The creation of crosswalks of rerouting information is a simple way to let the LGBTQ youth connect to the library and the worlds of knowledge it possesses.

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References

Chatman, E. (1996). The impoverished life-world of outsiders. *Journal of American Society for Information Science, 47* (3), 194.

Berman, S. (1984). Out of the kitchen-but not into the catalog. *Technical Services Quarterly*, *2*(1/2), 167-171.

Budd, J., Hill, H., & Shannon, B. (2010). Inquiring into the real: A realist phenomenological approach. *The Library Quarterly, 80*(3), 267-284.

Cortez, Edwin M. (1999). Use of metadata vocabularies in data retrieval. *Journal of the American Society for Information Science,* 50(13), 1218-1219.

Foskett, A. C. (1984). Better dead than read: Further studies in critical classification. *Library resources & technical services*, *28*(4), 346-359.

Olson. H. (2001). The power to name: Representation in library catalogs. *Signs*, *26*(3), 639-668.

Olson, H. (2002). *The power to name: Locating the limits of subject representation in libraries*. Boston: Kluwar Academic Publishers.

Marshall, J. K. (1972). LC labeling: An indictment. *Revolting librarians*, 45-49.

National Runaway Switchboard (2010). *Why they run: An in-depth look at America's runaway youth*. Retrieved from http://www.1800runaway.org/assets/1/7/Why_They_Run_NRS_approved.pdf

Noy, N. F., McGuinness, D.L. [n.d.]. *Ontology development 101: A guide to creating your first ontology*. Stanford Knowledge Systems Laboratory Technical Report KSL-01-05 and Stanford Medical Informatics Technical Report SMI-2001-0880.

Smith, A. (1989). Will the real bibliotherapist please stand up?. *Journal of Youth Services in Libraries, 2*, 241-9.

United States Interagency Council on Homelessness. (2010). *Home resources fact sheets opening doors: Homelessness among youth.* Retrieved from http://www.usich.gov/usich_resources/fact_sheets/opening_doors_homelessness_among_youth/

Vare, J. W., & Norton, T. L. (2004). Bibliotherapy for gay and lesbian youth overcoming the structure of silence. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, *77*(5), 190-195.

Werner, L. (1989). Bibliotherapy: Two sides to the coin. *School Library Media Activities Monthly, 6,* 34-36.

Wilson, D. (1984). The open library: YA books for gay teens. *English Journal, 73,* 60-63

Winkelstein, J. (2012). *What role should public libraries play in the lives of homeless LGBTQ youth?*. Unpublished doctoral dissertation, University of Tennessee, Knoxville.

Wood, M., Dunton, L., Spellman, B., Abbenante, M., & Griffith, J. (2009). Report: Office of Human Services Policy, Office of the Assistant Secretary for Planning and Evaluation Health Resources and Services Administration, U.S. Department of Health and Human Services.

21st Century Library and Information Professional

Elsa Bitri
Kastamonu University, Department of Information Management, Turkey. Email: bitri@kastamonu.edu.tr

Abstract**:** *Technological and scientific developments have led to fundamental changes and new trends in the information society, effecting the role and skills of the library and information professionals as well; "outdating" the traditional librarian. The study's backbone is the question that is the library and information professional of the 21st century and what are/should be the main skills and abilities of in order for him/her to work efficiently? A descriptive approach was used based on literature mainly published in the 2000-2012 time range in the area of skills and abilities required for the present and close future of LIPs. Beside traditional professional skills such as acquisition, selection, cataloguing, classification and dissemination,, preservation and archiving of information sources, reference, and so on, general or transferable skills like technological skills, information literacy and lifelong education, analytical and critical thinking, effective communication, innovative and initiative soul, team work ability and collaboration, social interaction, global perspective are some of the skills mentioned in the literature of recent years. Library and information professionals are in a process of ongoing change of needed information skills. A shift from traditional professional to personal and general abilities is observed. LIP's of tomorrow will have new identities for sure. According to this process it can be said that the main constant of the library and information professional skills and competences is the change itself and the need to keep it skillfully updated in the evolving world.*

Keywords: *Library and information professionals, skills of library and information professionals, professional skills, transferable skills.*

Introduction

There is a proliferation of articles in the last few years about this subject (Khoo, 2005), showing that it is an important issue because of the changing and challenging environment the librarians face. Although it is a natural process for communities and professions to change and evolve technological and scientific developments have led to some very fundamental changes and new trends in the information society.

Librarianship is one of oldest professions in the world (Baysal, 1987, p.15) and librarians as well. Nevertheless, worldwide changes and developments such as the addition of scholarly communication and new models in publishing, rapidly changing developments in ICT's, increasing of global competition, electronic information, and the interest of other disciplines to librarianship (Tonta, 2000), changing user needs, internationalization of higher education (Abdullahi, Kajberg & Virkus, 2007), changing educational programs, development of global culture and information society (Virkus & Wood, 2004) increasing international and intercultural opportunities have strongly influenced the profession as well as the role, self-image, motivation and survival skills of the librarian (Hashim and Mokhtar, 2012, p.151). A new professional climate has been created, effecting the role and skills of the library and information professionals as well; maybe in a way "outdating" the traditional librarian.

Librarians perform a valuable role to the society of information by facilitating meeting of any informational need. It wouldn't be natural if professional or even an entire society didn't want to adapt and to adopt with the wind of change in their profession, otherwise they would risk to "disappearing", just like pandas (Van House and Sutton, 1996). Since librarians play a pivotal role in the process of information access it is important for them to keep in touch with professional innovations and gain new skills and abilities.

In this paper a descriptive approach was used based on literature mainly in 2000-2012 time range and it aims to outline the new library and information professional and the skills and competencies needed in the 21st century. Firstly library and information professional and some major traditional duties are mentioned, after that the required new skills are determined.

Who is a Library and information professional?

In early civilizations first librarians were the otherwise called *book keepers* or *book guardian.* In antiquity, the duty of librarianshiping was inherited from father to son. By time apprentice relation was characterising librarianship. During the middle ages the library was in the hands of the "intelligentsia" or the "librarian-god". In

18th and 19th century, persons of different knowledge backgrounds such as writers and philosophers, for example Dante Aligheri, Voltaire, Leipniz, Anatol France, Goethe, were the ones managing books and libraries. With explosion and increasing importance of scientific information rose up the need for a professional group, -the information holders with an adequate educational background (Lerner, 2007, p.301) and ability to deal with different aspects of information.

In the tenth edition of Harrod's Librarians Glossary librarian is defined as "one who has care of a library and its contents" (Prytherch, 2005, p.415). This quite general definition can be completed with role and tasks of a traditional librarian that following Rowland (1998) can be expressed as *Collection development and acquisition*, *Cataloguing and classification, Circulation*, *Reference work, Preservation, Conservation and archiving* and *User education.* The librarian's work includes decision on what, how and from where information resources should be selected and purchased, its organization and arrangement, access to information; availability and lending of materials to user and recover them back; provision of a range of services to different needs and interests of users, advise library users and serve information in a way to provide and facilitate access to information, archive, preservation and conservation of the humankind's cultural records from damage or loss and serve it to next generations. The way in which these interralated operations and activities are converted into values, distinguishes librarian from other professionals in the community.

If we have a look at the curriculum of library and information science (LIS) schools we can see that courses representing aforementioned traditional tasks such as organization (cataloging, classification, indexing and abstracting) and preservation of information, information resources, information retrieval, collection development and management (selection, acquisition, weeding, storage), user groups/needs, information systems and communication, reference, circulation, book and library history, library management and so on, are taught and are required to be taught in almost all LIS schools all around the world (Bitri, 2012, p. 61).

Information technologies have changed the working style of the librarian and requires much more effort and professionalism than ever. Traditionally librarians helped users to locate information within given borders (of library and between writer and user). Today, they carry out the same function but within endlessly time and spatial borders. Access to information in 7/24 hours, from anywhere without encountering any problem has become the main concern of LIPs.

The core skills traditionally associated with librarians are still relevant but professionally survival, - work efficiently and serve their "clients" good services- in the 21st century means keeping in pace with new developments and fundamental changes in the field and elsewhere. If not, the LIP will risk disappearing.

Accordingly, the new librarian can be defined as a professional who has graduated LIS and is donated with required information and skills able to solve any problem and undertake any responsibility within given borders of a certain informational work. Speaking specifically, the LIP, is a professionally renewed identity (Partridge & Hallam, 2004, p.1) who has a deep understanding of concepts and meanings brought by new technique and technologies, understands and applies in a dynamic way their relation, knows and manages information resource, services and technologies (Nonthacumje, 2011, p.14; Audunson, Nordlie & Spangen, 2003, p.198). The new library and information professional is an umbrella term for the information worker, information manager or the librarian, archivist, record manager, web developer, information broker (Special Libraries Association, 2003). The new library and information professional is knowledge/value holder and transmitter, who understands the user, the information and is aware of its own role in the society.

In this case is proper to ask, what are/should be these skills and abilities of the LIP of 21st century in order to work efficiently?

Skills and Competencies

Competency can be defined as an ability or set of knowledge, skills and attitudes required for effective behaviour and work performance in different cognitive fields; where *knowledge* refers to having information about, knowing or understanding something, *skill* refers to ability to apply what is known and *attitude* refers to individual's mental or emotional approach to something (Khoo, 2005). In the set of competences of an individual it is important to distinguish between *professional* competencies and *personal or generic* ones. Professional skills are directly related to operations a professional carries out such as cataloguing, classification, reference, archiving and so on. Whereas personal or transfereble skills are mainly a "secret and personal way" like analytical and critical thinking, effective communication, initiative and responsible soul one uses to carry out these operations. In other words they are auxiliary skills cooperating with professional skills to handle a certain professional work. Related literature reveals that different terms, such as

transfarable skills, generic skills, *and graduate abilities*, *key competencies* (Nonthacumjane, 2011; Fisher, Hallam, & Partridge, 2005, p.43) are being used related to personal or generic competencies.

According to Khoo (2005) competencies needed by library and information professionals can be divided into six domains comprising:

- *Traditional librarianship skills*, which include acquisition, cataloguing, classification, indexing, reference, circulation, information sources, preservation and archiving, copyright and intellectual property laws, user behavior, user needs,
- *Value-adding skills*, including research skills and decision-making skills, knowldege management, user-orientation, service-orientation, love of learning, intellectual curiosity, interaction with members of the profession, ability to articulate the roles of libraries and librarians,
- *IT skills* including Internet, Web and XML technologies, RFID, federated search engines, programming and scripting, productivity tools.
- *Transferable and soft skills,* communication, management, leadership, teaching and training and teamwork skills, as well as the ability to empathize with users and understand their information needs
- *Appropriate attitudes, values and personal traits*, flexibility and willingness to handle a wide range of tasks, adaptability and ability to handle change, continual learning, solidarity,
- *Domain knowledge,* subject knowledge in different areas according to the organization and position he/she works.

Another research (Partridge, Lee and Munro, 2010) outlining the skills of the librarian 2.0 competences needed to the new librarian, groups these skills into 7 topics: *Technology, Learning and education, Research or Evidence Based Practice, Communication, Collaboration and Team work, User Focus, Business savvy and Personal traits.*

Generic or transferable skills like technological skills, information literacy and lifelong education will, research ability, analytical and critical thinking, effective communication, innovative and initiative soul, team work ability and collaboration, social sensibility, self-confidence, solidarity, business and negotiation ability (SLA), 2003; European Council of Information Associations (ECIA), 2004; Fisher et. al., 2005; Australian Library and Information Association (ALIA), 2005; Saroja, 2006; Tam & Mills, 2006; Varalakshmi, 2006; Ghosh, 2009; Partridge, Lee & Munro, 2010; Nonthacumjane, 2011; Hashim & Mokhtar, 2012)**,** awareness of industry trends and political undercurrents (Khoo, 2005) are some of the skills which not only have gained importance in the routine of the profession but they have "changed the direction" of the jobs worldwide and "occupied" the literature of recent years as well.

We can easily and abviously say that a shift and great change is occuring in the needed skills of the library and information professional. From traditional professional competences, now skills of a more interdisciplinary nature are needed, sometimes showing us that no matter the function or operation it is done, it is more important the way this operation is carried out.

Living in a constantly changing world requires an adaption of professional skills to modern and interdisciplinary skills in order to be part of the "living world", not disappearing one. The only constant of the LIP characteristics is the change itself and the need to keep skillfully updated in the evolving world. Because of the multi and interdisciplinary nature of the LIS field, just like double helixes of a DNA structure (Partridge & Hallam, 2004) both professional and transferable skills are basic to the 21st century LIP. Obtaining such abilities and competences would be a primary function of the LIS schools and duty of the LIP him/herself as well to be in touch with recent developments and willing to learn and reinforce own's competences; to be a "complete" (Audunson, Nordlie & Spangen, 2003) library and information professional.

Discussion

Studies show that market of librarianship would prefer personal or soft skills such as technological skills, research ability, analytical and critical thinking, and effective communication rather then professional technical ones. New digital, cultural and economically rapid changing and challenging environemt demands that library and information professionals be "a multi-talented expert-of-all-trades, with high IQ and EQ" (Khoo, 2005), with multi-skills and multi-tasking abilities (Hashim & Mokhtar, 2012, p.155). It is not possible to possess all these competencies to be an effective LIP, but depending on the type of organization and position he/she works the LIP should be equipped with least some of them.

An important issue not mentioned much in related studies but which effects communication, development and self-confidence in non-English speaking countries is English language. English -some times a second or third

foreign language would be of critical importance- could concerns a real problem because of scientific and technological developments and innovations originating mainly in English, and thus making it difficult for a professional to understand and operationalize new principles, technologies and implications in his/her field.

As to summarize, some basic professional and personal skills a new millennium LIP should possess can be defines as follows:

Professional competencies include knowledge and ability in:

- Information process,
- Information organization, storage, preservation and dissemination,
- Information sources and services
- Information policies, law and legistlation
- Information (infra)structure, desing and architecture
- User groups, information needs and their information (seeking) behaviours
- Development and management of information centers
- Information literacy and lifelong learning
- User education
- Specialized subject knowledge
- Promotion and marketing of library services
- IT skills for web design,
- Research and professional projects in at least one foreign language

Together with professional competences a LIP should be equipped with general competences such as:

- seeing the big picture
- analytical and critical thinking mind
- effective communications skills, team work soul, interaction and collaboration
- assertiveness, enthusiasm, flexibility,
- recognizing the value of professional networking and solidarity
- initiativeness, self-confidence and responsiveness,
- opened to information literacy and lifelong education
- business and negotiation ability
- ICT skills

Conclusion

With the digital developments, librarianship is gaining a universal dimension. An important shift is observed in the skills and competences required to manage library collections and services effectly. Traditional professional skills and competences may have changed in shape but not yet in function and value. A "complete librarian" is a professional person who understands and is concerned with the library material both as contents and their physical aspects; the organization and retrieval of that material; possessing managerial, institutional and social dimensions of the profession and understanding the role that it might play in society (Audunson, Nordlie, & Spangen., 2003, p.195), and the new era librarian "will become the guardian of digital information and will be the vehicle to preserve democratic access to information" (Hashim & Mokhtar, 2012, p.155) who and continually improves information services in response to the changing needs. A 21st century LIP has a competence luggage full of traditional professional skills along with major personal or generic skills which interoperate just like the helixes of the DNA.

References

Abdullahi, I., Kajberg, L., & Virkus, S. (2007). *Internationalization of LIS education in Europe and North America*. Retrieved September 21, 2011 from http://mg.csufresno.edu/papers/forum_2/abdullahi_Virkys.pdf

Audunson, R., Nordlie, R., & Spangen, I. (2003). The complete librarian - an outdated species? LIS between profession and discipline. *New Library World*, *104*(6). 195-202.

Australian Library and Information Association (ALIA) (2005). *The library of information sector: Core knowledge, skills and attributes.* Retrieved June, 14 2011 from http://www.alia.org.au/policies/core.knowledge.html

Baysal, J. (1987). *Kütüphanecilik alanında kavramlar araçlar yöntemler.* İstanbul: İstanbul Üniversitesi.

Bitri, E. (2012). *Kütüphane ve bilgibilim eğitimi: Arnavutluk için bir yaklaşım [Library and information science education: an approach to Albania]*. (Unpublished Master's Thesis), Hacettepe University, Ankara, Turkey.

European Council of Information Associations **(**ECIA). (2004). *EUROGUIDE LIS*: *Volume 1, Competencies and aptitudes for European information professionals* (2nd rev.). Paris: ADBS Editions.

Fisher, B., Hallam, G., & Partridge, H. (2005). Different approaches-common conclusions: The skills debate of the 21st century. In *Continuing Professional Development-Preparing for New Roles in Libraries: A Voyage of Discovery. Sixth World Conference on Continuing Professional development and Workplace Learning for the Library and Information Professions.* P. Genoni and G. Walton. (ed.). München: K.G. Saur.

Hashim, L. & Mokhtar, N.H.W. (2012). Preparing new era librarians and information professionals: Trends and issues. *International Journal of Humanities and Social Science, 2*(7), 151-156.

Prytherch, R. J. (2005). *Harrod's librarians' glossary and reference book: A directory of over 10,200 terms organizations, projects, and acronyms in the areas of information management, library science, publishing, and archive management*. (10. Ed.) England: Ashgate E-Book.

Ghosh, M. (2009). Information professionals in the open access era: The competencies, challenges and new roles. *Information Development*, *25*(1), 33-42.

Khoo, C. (2005). Competences for new era librarians and information professionals. Presented at *International Conference on Libraries (ICOL 2005)*, 14-16 March 2005. Penang, Malaysia. Retrieved November 15, 2012 from http://www.lib.usm.my/elmu-equip/conference/Documents/ICOL%202005%20Paper%202%20Christopher%20Khoo.pdf

Lerner, F. (2007). *Kütüphanelerin hikayesi: Yazının bulunuşundan bilgisayar çağına*. İstanbul: Bileşim.

Nonthacumjane, P. (2011). Key skills and competencies of a new generation of LIS professionals. *IFLA Journal, 37*(4), 280-288.

Partridge, H. L. & Hallam, G. (2004). *The double helix: A personal account of the discovery of the structure of the information professional's DNA*. Paper presented at ALIA 2004 Biennial Conference, Gold Coast, Australia. Retrieved March 15, 2012 from http://eprints.qut.edu.au/1215/

Partridge, H., Lee, J., & Munro, C. (2010). Becoming "Librarian 2.0": The skills, knowledge and attrbuted reqiured by library and information science professionals in a Web 2.0 world (and beyond). *Library Trends*, *59*(1/2), 315-335. Retrieved July 15, 2012 from http://eprints.qut.edu.au/39553/1/39553.pdf

Rowland, F. (1998). The librarian's role in the electronic information environment. Paper presented to the ICSU press Workshop, Keble College, Oxford, UK, 31 March to 2 April 1998. Retrieved July 15, 2012 http://www.bodley.ox.ac.uk/icsu/rowlandppr.htm

Saroja, G. (2006). *Developing competences of library and information professionals: An evaluation of LIS curriculum of ODL institutions in India*. Retrieved September 21, 2012 from http://wikieducator.org/images/f/f6/PID_267.pdf

Special Libraries Association (SLA) (2003*).Competencies for information professionals of the 21st century***.** Prepared for the Special Libraries Association Board of Directors by the Special Committee on Competencies for Special Librarians: Eileen Abels, Rebecca Jones, John Latham, Dee Magnoni, Joanne Gard Marshall.

Tam, L.W. & Mills, J. (2006). The education needs of information professionals for South East Asia in the digital era, with special attention to the needs of the Hong Kong Special Administrative Region: Preliminary results of a Delphi study. C.Khoo, D. Singh ve A.S. Chaudhry (ed.). In *Proceedings of the Asia-Pacific Conference on Library & Information Education & Practice 2006 (A-LIEP 2006). 2006 Singapore: School of Communication and Information, Nanyang Technological University* (pp. 180-186). Singapore: School of Communication & Information, Nanyang Technological University.

Tonta, Y. (2000). Kütüphanecilik eğitiminin yeniden yapılanması. In *Türkiye'de Kütüphane ve Enformasyon Biliminin Kurumsal Gelişimi. İ.Ü. Edebiyat Fakütlesi Kütüphanecilik Bölümünün kuruluşunun 36. Yılı Anısına Düzenelene Sempozyum Bildirileri (11-12 Mayıs 2000, İstanbul)*. A.Yontar (Ed.). (pp.74-89). İstanbul: Türk Kütüphaneciler Derneği İstanbul Şübesi.

Van House, N.A. & Sutton, S.A. (1996). The Panda syndrome: An ecology of LIS education. *Journal of Education for Library and Information Science.* Retrieved June 12, 2010 from http://people.ischool.berkeley.edu/~vanhouse/panda.html.

Varalakshmi R.S.R. (2006). Educating 21st century LIS professionals - The needs and expectatitons: A survey of Indian LIS professionals and alumni. In: *Proceedings of the Asia-Pacific Conference on Library & Information Education & Practice 2006 (A-LIEP 2006)* (pp. 180-186). Singapore: School of Communication and Information, Nanyang Technological University.

Virkus, S. & Wood, L. (2004). Change and innovation in European LIS education. *New Library World, 105*(9/10), 320-329.

How to Reach 'Hard to Reach': Information Services & Apps for Underserved Population

Silvia Horáková
Comenius University, Faculty of Philosophy, Department of Library and Information Science, Bratislava, Slovakia. Email: shorakova@gmail.com

Abstract: *The term 'hard to reach' is used to describe those sections of community that are difficult to involve in public participation. It often refers to people with disabilities, migrants, refugees, LGBT, elderly people, homeless or to 'hidden population' - people who do not wish to be contacted, such as illegal drug users or sex workers. Individuals belonging to 'hidden population' are chronically uninformed, in some cases illiterate and information poor. They are in many cases isolated from the mainstream society and they lack opportunities for their further development - education, job skills or access to employment opportunities. These groups of people are not using library services frequently or not at all because of the high level of stigmatization. Information services for them are provided mainly by social services and NGOs, but with the new information and communication technologies like smartphones they can gain access to useful information very fast and which is most important - they can stay anonymous. Research on information behavior focused on marginalized groups show that undeserved population rely mainly on informal source of information and their information needs included information about households, education, childcare, healthcare, language courses and employment. Can we use these outcomes from information behavior research to create more informational valuable apps & services, reach more potential library patrons and improve their life?*

Keywords: *Underserved population, information behavior, information services, apps.*

Introduction

Hidden groups of population are more often socially excluded from broader society and they lack opportunities for their further development. Social exclusion is not affecting only excluded persons but also the whole society. Term 'social exclusion' has been deployed in France in 1970s as a response to problem of sustaining social integration. It refers to people who didn't want (or weren't able) to integrate into society and find a work - i.e. people with mental disabilities, elderly people, adult offenders or drug abusers. The concept of social exclusion became later part of the EU policy with a clear shift in the meaning:

> *It was assumed that social exclusion existed not because poor people were necessarily unwilling to integrate, but because significant changes in the economy and labor market resulted in greater poverty and unemployment* (Caidi & Allard, 2005).

Early theories tended to place responsibility for exclusion and marginalization of certain group of people upon themselves because of their economic, social and cultural status. Among the first scholars who started questioning this concept was Dervin who considered marginalized group as a people with less opportunity to gain and use information. Social exclusion began to be considered as an information problem in the middle of 1990s with spreading of new information and communication technologies and creation of digital divide.

While laptops or PCs may be unaffordable for some people, smartphones relatively low cost and accessibility in low-income communities can help advance digital equity. Smartphones are becoming an important tool in helping underserved populations improve their education, healthcare, childcare, find jobs or improve their businesses. Almost 5.9 billion (that is 87% of the world population) are mobile phone users (Gahran & Perlstein, 2012) but still only 16% of global mobile subscriptions are smartphone users (IDC 2012). Apps could give people valuable information about their communities, i.e. helping homeless to find nearest shelter and food, finding appropriate activities for low-income parents and their kids, inform relatives/friends of drug users how to improve chance of overcoming the overdose, alert family members of undocumented migrants of their exact locations if they were put under arrest or share experience and advices among sex workers.

Information Needs, Services & Apps for Underserved Population

Homeless People

It is estimated that over 100 million people (11 million children) around world are living without shelter. 78 million of homeless people are living in the India and in European Union it is around 3 millions (UN, 2005). In Slovakia there is over 10 000 homeless people, 1/3 of them are living in capital city Bratislava and came from orphanages or didn't grow up with their parents for another reason (Gogoláková et al., 2010). Information services for homeless people are mainly provided by NGOs (Proti prúdu, Vagus). In Bratislava there is one specialized library for homeless running by NGO Proti prúdu.

The most common reasons why people become homeless are poverty and lose of housing. They could also face several life crises in short period of time - such as loss of job, domestic violence, and loss of loved one, mental health problems or drug and alcohol abuse. Their information needs are tied to solving these problems. Chronic homeless are also losing important social support, such as contacts with friends and family.

Homeless people do not considered themselves as information poor, some claimed they are feeling overloaded with information (Hersberger, 2005). The most important method for obtaining information is personal contact (formal or informal). The formal sources include health and social workers, NGOs or religious organizations whose staff homeless considered as "friends". The informal sources include family members, friends or another homeless people. Social network of homeless is mainly made from other homeless people, but only few of them could give others valuable sources of information. Homeless never share sensitive information with other homeless because they want to avoid conflicts (Hrčková et al., 2009).

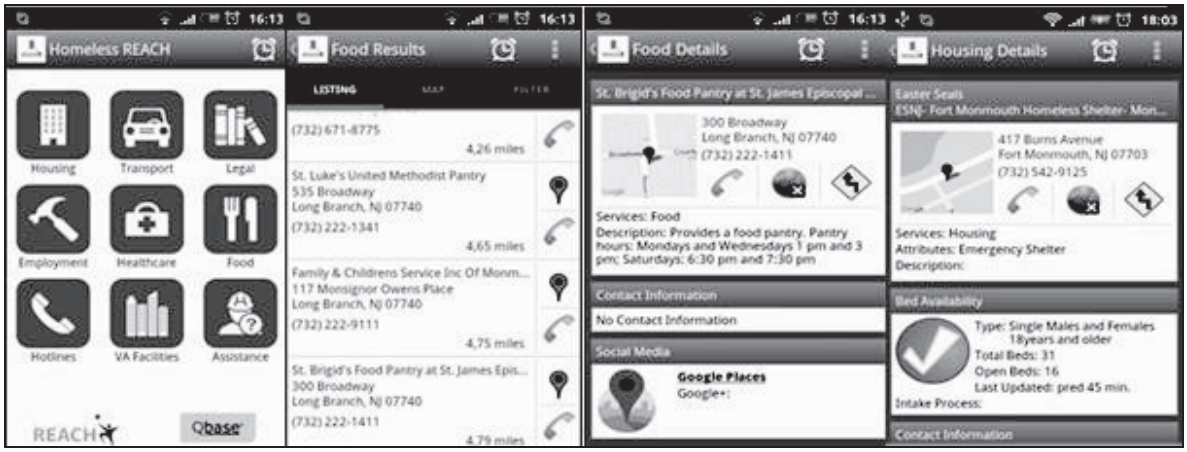

Figure 1. Homeless reach app

Apps for homeless and their caregivers are mainly located in US, for example Homeless Reach, Lean on me Outreach or Homeless Helper. Apps offer information about shelters and bed availability, food resources (food banks or soups kitchens), legal resources, health and mental care facilities, important local phone numbers and websites or employment information. Search criteria allow searching for resources by current location or by full or partial address within a given radius. Apps are for free.

Migrants

It is estimated that over 214 million people worldwide are migrants and around 32 million are illegal immigrants. It is expected that number of migrants will increase to 405 million in 2050. Before joining the EU Slovakia was considered mainly as a transit country and from where people rather emigrated. Migrants who are now coming to Slovakia are mainly from Romania, Bulgaria, Vietnam and Ukraine. Information services from them are provided by NGOs, governmental institutions or international organizations (IOM, Centre for Coordination of Integration of Foreigners at the Ministry of Labour, Social Affairs and Family of the Slovak Republic). Libraries in Slovakia are not providing any special services for migrants.

Migrants differ in their information needs - highly skilled migrants will have other needs than refugees, foreign students or temporary workers. Adaptation to the new country is a process associated with specific needs and attitude toward resources, institutions or technologies (Caidi, 2005). Information needs of migrants who just arrived to the new country are bound to information which will help him survive - information about accommodation, jobs or language courses. Migrants who already live in one place for a longer time are

mainly focusing on information about medical care and legal services. In the final stage of assimilation to the new country migrant's needs are bound to becoming active citizens - they would like to obtain information about elections, civic duties or cultural celebration.

Migrants have to often overcome uncertainty, loneliness and culture shock. Contacts with other migrants from the same country of origin, who are living in the new country longer, help newcomers quickly adapt and integrate into society. Social networks of migrants who are living in one place for a longer time are also evolving. First generation of migrants is exposed to high risk of poverty and unemployment but also keeps more contacts with family from their country of origin then third generation of migrants.

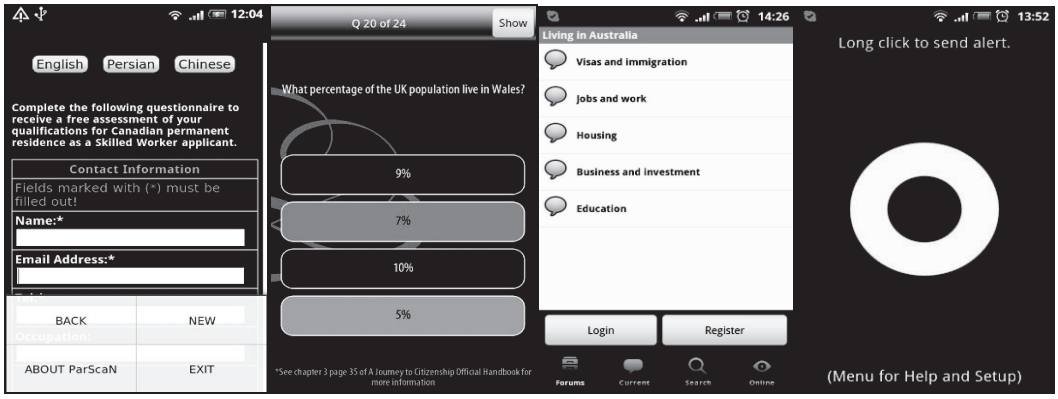

Figure 2: Apps Canada Migration Assessment, Official Life in the UK Test, Australia Immigration Forum, I am getting arrested

App for migrants such as "Canada Migration Assessment" provides information about qualification and basic requirements for successful migration to Canada. App "Official Life in the UK Test" preparing migrants for British citizenship test. With app "Australia Immigration Forum" migrants can receive help from other migrants and share information about education, business, employment and travel in Australia. App "eApp" is under way to help undocumented immigrants notify friends and family about their current situation if they were put under arrest. Application would also provide immigrants with information about their rights and they will be able to send pre-recorded messages that provide location, direction and requested actions to their contacts (Landfried & Guzman, 2012). Similar app "I am getting arrested" was developed for Occupy Wall Street activists. Prices for apps differ from 0 euro to 4,75 euro.

Sex Workers

Over 40 million people are working in sex-business worldwide, most of them since they were 14 years old (USHD, 2012). In most countries is prostitution illegal, regulated is in some European countries - Netherlands, Switzerland, Germany and Austria. In Slovakia, prostitution is neither banned nor legal and it is estimated that over 1500 people (95% women) are working as sex workers (OZ Odyseus, 2007). Street sex workers or lower ranking prostitutes are the most vulnerable group in sex-business. They are usually caught in their lifestyle where every moment is a struggle for survival. They are usually in very bad financial situation, drug or alcohol addicts or could be victims of human trafficking. Most of them are not aware of their information needs, don't know how to identify the problem or do not think about problems as they could be ever solved:

> *The situation of not taking action in response to needs is because the need has become so entwined with their daily life that they do not experience it as a problem* (Stilwell, 2002).

They experiencing a state of lacking information but are unable to find a solution or they are not able to access information intermediaries who could provide them appropriate information. Sex workers are exposed mainly to health problems and some of them do not have health insurance. The most serious health problems are including HIV/AIDS, other sexually transmitted diseases, malnutrition, hepatitis or mental health problems (post-traumatic stress syndrome, anxiety and depression). Because of social stigmatization and poorer access to medical services at night when they are usually working, most of them seek for medical help when disease developed to advanced stage. Sex workers are using mainly informal sources of information, such as other sex workers, family members and friends. They prefer mainly face to face contact.

Sex workers are also going more high-tech and most of the apps were developed for their safety. Apps "GPS Location Alarm" or "Safe call" sends users location to a friend/family member and can automatically contact police. There is a problem with creating this technology because of the illegality of prostitution. Apps "Bad

Date List" or "Ugly Mugs" would help sex workers share ugly mugs phone numbers or information about misbehaving, non-paying and violent customers. The main goal of app with working title "Red Light" is to create social network site where sex workers can get advice from other sex workers, blog about their experiences and the possibility to turn on the red light when he/she is with the client and turn off when he/she is finished.

Drug Users

More than 250 million people around world are using illegal drugs and almost half of them are cannabis users (UNODC, 2010). In Slovakia, around 16% of population have experience with illegal drugs and less than 18 000 are considered as problematic drug users. Small amount of research have been done in area of information behavior of drug users. Dervin (1999) did research on information needs of pregnant drug addicted women. Her sense-making model used in the study help to define problematic situations, determine how to bridge information gap or in which situations confusion and user uncertainty is occurring. Study also shows that these women will not seek for help from social services until these services and their representatives will provide support and understanding for them and their situation.

Griffin's (1999) risk information-seeking model is used to understand how people are searching and accessing to risk information. Model is consisting seven factors: individual characteristics, risk perception, response to risk situation, impact of social pressure on obtaining relevant information, information self-sufficiency, learning ability and confidence to information from various information sources.

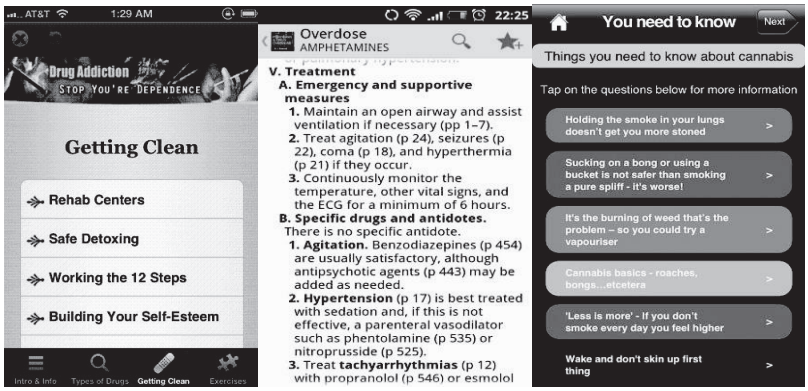

Figure 3: Drug addiction information, poisoning and drug overdose, cannabis drugs meter

There is a lot of apps like "Drugs addiction information", "Dealing with drug addiction", "Drug addiction - how to stop" with very didactic content. These apps are offering information about how addiction works, how to identify if user has a problem, about types of drugs, how to detox safely and also quizzes and exercises about addiction. App "Poisoning and drug overdose" containing very detailed critical information on effective diagnosis and treatment of drug-related emergencies and chemical exposures. On the other side apps "Cannabis drugs meter", "MDMA drugs meter", "Cocaine drugs meter" provide safer using tips, information about different ways of taking drug, possibility to compare drug use with other people's habits worldwide and also advices on cutting down.

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References

Baker, R. (2003). General health problems of inner-city sex workers: A pilot study. *Journal of the Medicinal Library Association 91*, 67-71.

Brackertz, N. (2007). Who is hard to reach and why?. *ISR Working Paper*. Retrieved September 19, 2012 from http://www.sisr.net/publications/0701brackertz.pdf.

Caidi, N. & Allard, D. (2005). Social inclusion of newcomers to Canada: An information problem?. *Library and Information Science Research, 27*, 302-324.

Chatman, E. (1999). Life in the round. *Journal of the American Society for Information Science, 50*, 207-217.

Dervin, B. (1999). In moments of concern: A sense-making study of pregnant, drug-addicted women and their information needs. *The Electronic Journal of Communication 9,*(2,3,4). Retrieved September 19, 2012 from http://www.cios.org/EJCPUBLIC/009/2/00927.html.

Fisher, K. (2004). Information behaviour of migrant Hispanic farm workers and theit families in the Pacific Northwest. *Information Research, 10*. Retrieved September 19, 2012 from http://informationr.net/ir/10-1/paper199.html.

Gahran, A. & Perlstein, J. (2012). Funding mobile strategies for social impact: the future is now. *The Third Report in Zero Divides.* Retrieved September 19, 2012 from http://zerodivide.org/sites/default/files/FundingMobile_FINALFINAL.pdf

Gogoláková et al. (2010). Bezdomovci - problem z pohľadu verejného zdravotníctva. Retrieved August 16, 2012 from http://verejnezdravotnictvo.szu.sk/SK/2010/1/Gogolakova.pdf

Griffin, R.J. (1999). Proposed model of the relationship of risk information seeking and processing to the development of preventive behaviors. *Environmental Research Section A*, 230- 245.

Hersberger, J. (2005). The homeless and information needs and services. *Reference & User Services Quarterly, 44*, 199-202.

Hrčková et al. (2009). Informačné správanie ľudí bez domova. *Contribution to Student Research Conference.*

IDC. (2012). *Strong demand for smartphones in second quarter continues to drive the worldwide mobile phone market*. Retrieved September 19, 2012 from http://www.idc.com/getdoc.jsp?containerId=prUS23624612.

Landfried, T. & Guzman, L. (2012). *Emergency alert and personal protection for everyone.* Retrieved December 4, 2012 from http://www.rbelsystems.com/.

OZ Odyseus (2007). *Základné informácie o sex-biznise*. Retrieved August 16, 2012 from http://www.odyseus.org/index.php?option=com_content&view=article&id=88&Itemid=138

Smith, A. (2012). *Mobile websites*. Retrieved September 19, 2012 from http://www.webjunction.org/content/dam/WebJunction/Documents/webJunction/Chapter.2.Mobile.Websites.pdf.

Stilwell, C. (2002). The case for informationally based social inclusion for sex Workers: A South African exploratory study. *Libri,* 52, 67-77.

UN - United Nations. (2005). *Press briefing by special rapporteur on right to adequate housing*. Retrieved August 16, 2012 from http://www.un.org/News/briefings/docs/2005/kotharibrf050511.doc.htm

UNODC. (2010). *World Drug Report 2010*. Retrieved August 16, 2012 from http://www.unodc.org/documents/wdr/WDR_2010/World_Drug_Report_2010_lo-res.pdf

USHD (2012). *Prostitution statistics.* Retrieved August 16, 2012 from http://www.statisticbrain.com/prostitution-statistics

Library Anxiety in International Students - Fact or Myth?

Fredrik Mauritz Ros
University of Borås, Sweden. Email: s105177@student.hb.se

Andreas Steiner
University of Borås, Sweden. Email: s103742@student.hb.se

Abstract: *This study deals with library anxiety of international students at the University of Borås, Sweden. The research questions aim to investigate if library anxiety hinders this group's use of the university library. The theory of Library Anxiety was first presented by Mellon (1986) and further developed by Bostick (1992) and Onwuegbuzie, Jiao and Bostick (2004) in which Onwuegbuzie & Jiao produced a theory of antecedents of library anxiety. The results of our study reveal no traces of library anxiety in the international students. This leads us to suggest a revision of Onwuegbuzie & Jiao´s theory. They refrain from grading catalysts of library anxiety in order of importance giving equal significance to factors of environmental, situational and dispositional origin. This paper suggests instead that certain factors in the dispositional category have greater impact on the level of library anxiety than environmental and situational antecedents.*

Keywords: *Library anxiety, international, student, language barrier.*

Background

Working part time as a student assistant at the library of the University of Borås, one of this paper´s authors observed a particular level of uneasiness by some international students while using the library´s resources. The language barrier is one obvious explanation. This observation led us to reflect on the concept of library anxiety (LA), coined by Mellon (1986). "Native language" and the "Country where the library is located" are two of the potential sources of LA presented by Onwuegbuzie, Jiao & Bostick (2004). Both of these antecedents suggest that international students at Swedish universities could be more prone to experience LA, and thus are in greater need of assistance from the library than Swedish students.

Purpose

The purpose of the study was to investigate eventual library anxiety and its situational triggers in international exchange students utilizing the academic library at the University of Borås.

More specifically, our questions were:

- Do international students at the University of Borås experience library anxiety in the university library?
- What situations catalyze library anxiety in the students?
- What emotions constitute the experience of library anxiety in this subject group?

What is Library Anxiety?

Library anxiety is defined by Onwuegbuzie, Jiao & Bostick (2004) as a negative emotional response or feelings of discomfort experienced in the library milieu. The cognitive, physiological, behavioral and affective consequences of this experience are included in the concept.

The antecedents of library anxiety are more detailed than, and somewhat different from, those of general anxiety in that they are sets of factors whose occurrence or shortage (the antecedent self-esteem refers to lack of self-esteem) in a student make him/her more LA-sensitive. Transferring and modifying the basic sets of antecedents from other state anxieties (mathematics-and statistics anxiety are mentioned), Onwuegbuzie, Jiao & Bostick use three different categories of LA-antecedents. Dispositional antecedents are an internal category containing factors concerning the student as a person, for example self-concept and study habits. Situational antecedents are, for example, size of the library or number of library instruction courses. This category is external and covers antecedents rooted in the library-as-place. Environmental antecedents are constituted by external factors relating to the student as a person, for example native language or year of experience as a student.

According to Onwuegbuzie, Jiao & Bostick, none of the three categories take precedence over the others as they interact to help generate the overall level of LA. The analysis will be built upon the assumption that frequent occurrence of antecedents indicates LA.

Method

Our methodological standpoint regarding the construction of an interview questionnaire was made with inspiration taken from Widerberg (2002), Kvale & Brinkmann (2009) and from the addendum found in Herdenstam (2002).

We sent an e-mail introducing ourselves and invited the recipients to partake in an interview concerning international students´ use and experiences of the university library to the international coordinator, an e-mail she distributed to the international students. We asked for the participants' name, age, nationality, acquired academic level and gender in order to be able to pick a heterogeneous sample (since those are possible antecedent of LA) which could not be realized due to the low number of male students interested in being interviewed. The receivers were informed of the study´s confidentiality and the assigning of pseudonyms to their persons.

As feelings of shame and inadequacy are integral parts of LA (Mellon) we did not inform of the specific purpose of the study until afterwards. We deemed it a risqué to pose straight questions on feelings of inadequacy, thinking they might backfire and lessen the sought-after openness of conversation integral to qualitative interviews. The respondents were informed that they partook in an interview on experiences and attitudes in relation to the university library. We asked for thoughts and responses across the whole spectrum, positive as well as negative, but asking the interviewees to elaborate on the negative.

The four interviewees were:

- Ayla, age 23, German female with Turkish roots, studies Business Administration
- Jay, age 24, Indian male, studies a Masters in mechanical production engineering
- Lin, age 22, Chinese female, studies Textile Management and has a bachelor in Business Administration.
- Qui, age 29, Vietnamese female with a bachelor in Natural Sciences, a Masters in Industrial Management and she's currently studying a Master's in Business Administration.

Analysis

The analysis makes use of the three aforementioned categories of antecedents of library anxiety.

Dispositional Antecedents

There were no signs of a perceived perfectionism as all of the students asked for help if they encountered situations outside their own experience. Talking about their study habits (and the related subject, academic procrastination), they presented a rather unified front, although slightly different. Jay describes himself as "not an everyday learner, I try to concentrate whenever I have time, whenever I feel like reading", and when he studied, he was always in the library. The others spend a lot of time in the library, often until closing time. Responses like "I think it´s more effective to study in library than at home. At home there is laptop, Facebook, everything makes me crazy" and "I use the library more for study and not the computer because I run away from the computer. I don't want to study with my computer. For the exams!" are representative of their views. On the subject of having hope and finding their studies meaningful, all of the students seemed to take their invested time at UOB very seriously.

One respondent mentions that before studying abroad, a cousin who has a career working for NASA served as inspiration; "He was just next to me studying in small classes but now he has grown somewhere else. I just want to follow his footstep, that's it", says the respondent.

Environmental Antecedents

Environmental antecedents, as presented by Onwuegbuzie, Jiao & Bostick are a field of antecedents that mostly offers vaguer conclusions than the dispositional and the situational antecedents. Previous research doesn't support each other's results, and at times even contradicts each other. This is mainly a "problem" for the authors to motivate what antecedents actually are environmental in their nature, but it also makes it

difficult for us to contrast and compare our results with the previous research. Also, the respondents did not touch upon the environmental antecedents directly in our interviews. None of our respondents (75% female, 25% male) mentioned or hinted at their gender or age as being a source of library anxiety. Looking at the year of study antecedent, all of the respondents had previous academic experience, though their experiences of academic libraries varied from very positive to very negative. Arriving in Borås made them all freshmen again, with a new library situation, and for some the transition held many changes. Two of the students expressed that belonging to cultures where interaction with librarians included approaching with veneration to the point where they were scared to bother with "stupid" questions, and one of them described memories of a substandard library that didn´t supply the needed material or surroundings for effective studies. In Borås, they were introduced to the library early on, and quickly recognized it as a tool for helping them out with their studies. Being new was not a paralyzing factor when it came to using the library, even if one of the students said that she initially "was shy person", but once she got used to it she claimed to "[…] just go and politely ask for help". It is noteworthy that Nygren (2008) concludes that longer experience of studies diminishes LA is confirmed by in her study.

Two more environmental antecedents are frequency of library visits and grade point average. All of our respondents are experienced researchers, and most of them frequent library visitors before their transition to Sweden. This might be an explanation to why none of them tells of any problems or negative emotional responses to the research process. Neither the library visit frequency nor the grade point average was a problem to the respondents as all of them as all of them expressed familiarity with how to handle the search processes, though there were an initial need to ask the staff. One student says:

> *Articles, papers we need to find, by someone. But so far, it's good. A lot of articles, I don't have enough time to read. If I can download it, I do. I can find them by myself", another:"[…] when articles, and checking on access, I don't know what to do so I went to them again and asked. These kinds of few things are good in library... I have gone through staff with all this.*

Situational Antecedents

The third and largest category of LA-antecedents is of an external nature, relating to day-to-day situations outside the students control. Of the antecedents, some come across as more important than others. For example the library´s size, the lack of locational knowledge and students comfort within the library are all mentioned by the interviewees at various points.

One trait shared by all four of the respondents is the positive experience of the University library of Borås. Neither of them shows any signs of being "afflicted" by the "library size" or "comfort within the library"-antecedents, instead describing it as "colorful", "cute", "not forbidden, like in my home university", "the air, the light, the rooms are better here", "it looked like a coffee shop" and "the windows on entrance floor looked like art". The feelings of being dwarfed, confused or intimidated by the library-as-place found in respondents of other studies (Mellon, Herdenstam, 2002) could not be found in ours. The only voiced critiques relates to too few opening hours. The library seems to have come across as a positive place, easy to navigate and allowing for both privacy and group sessions. Responses in line with the antecedent lack of locational knowledge, was found in small amounts. For example, one student says:

> *Firstly I didn't know how to search books, that's the first thing I asked and they just took me to the computer and just showed me how to search books and to which rack I should go and all this stuff.*

Most of the respondents have been offered a tour of the library as part of their introductions to the university, but few relates their knowledge of the library to this activity. Remarks such as "we also have to learn from other, friends, how to take more use of this library" and "you add a machine that lets you know which subject is on which floor, I think that's very good" indicates that this introductory tour might not have fulfilled its purpose of orientating the international students. This can be related to an occurrence of the antecedent "number of library instruction courses", but did not cause any overt LA. The mentioned help from friends and electronic maps to navigate have lessened the need for inquiries. None of the interviewees have experienced negative emotions or been thwarted while doing research by not knowing where things are located, and none associate asking the staff about this with anxiety or doubt.

Conclusions and Discussion

When we began our study our preconceptions were that international students suffered from LA, more so than their Swedish counterparts, especially the language barrier and differences between host country and country of origin were viewed as hindrances and roadblocks. These preconceptions were proved wrong. During the course of the interviews and the analysis we have found no traces of LA as it has been defined in this paper. Linguistic misunderstandings, confusion when first confronted with the library building and culturally induced preconceptions of how to approach librarians on part of the interviewees could all be detected, but were not linked to the negative emotional experiences necessary to comprise LA. To our great surprise the answer to our first research is "No, based on the answers we have received, library anxiety could not be detected." The second and third research question becomes harder to answer. The logic consequence of these findings is posing a fourth question: "Why is this, how can we explain the absence of library anxiety in the international students?"

So, If We Didn't Find Library Anxiety Among Our Interviewees, What Did We Find?

We interviewed four very driven people who took their studies seriously, and who for various reasons had chosen to attain academic studies away from their native country. The ideas of low self-concept, bad self-esteem or bad self-perception, and associated feelings, seemed unfamiliar to them. Dealing with the library, aside from initial uncertainties on practical issues was not a problem for them. The library is a tool and a workplace for them to handle their studies and they seemed secure in their disposition to it, something that could be reassuring to investigators out to raise Swedish levels of competition for international students. Although Onwuegbuzie, Jiao & Bostick stresses that the three categories of antecedents interact to create LA, they also acknowledge that certain antecedents statistically go together (for example, a student that scores high for LA in academic procrastination statistically also scores high in affective barriers, comfort with the library and mechanical barriers. We entertain the thought that occurrence (or lack thereof) of dispositional antecedents has greater impact on the level of LA than the others. A self-confident, optimistic and motivated individual with social skills and effective study habits is less likely to be affected by language barriers, lack of procedural knowledge at a new library, etc, or at least less likely to recognize these factors as hindrances. For example, we propose that one can compensate for low self-esteem or lack of hope with computer familiarity to remove certain mechanical barriers to a degree, but the lacking self-esteem would still influence the LA-level more thoroughly than the mechanical barrier in itself.

We demonstrate this line of thought using a modified version of the LA-antecedents chart:

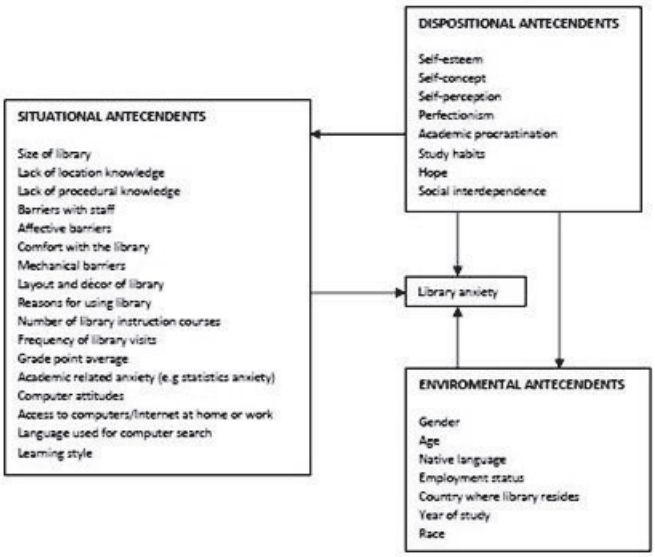

Figure 1. LA-antecedents chart

Also, certain stand-alone antecedents might be of greater importance than others. Number of years of study is one important example, as Mellon, Herdenstam and Nygren notes that growing familiarity with both libraries, and academic procedures at large, lessens overall LA.

Our surprising findings could also be the result of statistical and methodological issues. We reason that the way of approaching the subject group, it´s size and the way of gathering data might have influenced the results. Some answers to our fourth, retrospective question might be:

- Small subject group - Our research contained only four interviews from a population of about 250 international students at the UOB. We believe it to be naïve to think that a group that small accurately represents a larger picture, and also that this is the main reason not finding evidence of library anxiety.
- Voluntary participation - The international coordinator of UOB forwarded our mail to some of the international students. Our wording was to interview about "experiences and attitudes in relation to the university library" and the responses were very few. If library anxiety exists among the international students, it might be a reason to avoid participating in this study.
- Theory, not practice - The interviews were made outside the context of writing papers and essays, and it is possible that the result would look different if the study had been made as an observation over a period of time actually seeing the respondents utilize the resources of the library.
- Other methods - A different choice of method, and a different approach might result in a different result. Looking at previous research, Mellon for example, asked students to keep a diary about their library use and sum it up as a paper after six months and Bostick (1992) developed a quantitative scale with high accuracy. These methods might lead to different results.

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References

Bostick, S. L. (1992). *The development and validation of the library anxiety scale*. Unpublished doctoral dissertation, Wayne State University, Detroit, MI

Herdenstam, C. (2002). Library anxiety: En undersökning av psykologiska aspekter kring studenters upplevelser av sitt universitetsbibliotek. Borås: Högskolan i Borås, Bibliotekshögskolan/Biblioteks- och informationsvetenskap. Magisteruppsats i biblioteks - och informationsvetenskap vid Bibliotekshögskolan/Biblioteks- och informationsvetenskap, 2002, 31.

Kvale, S. & Brinkmann, S. (2009). *Den kvalitativa forskningsintervjun*. Lund: Studentlitteratur.

Mellon, C. A. (1986). Library anxiety: A grounded theory and its development. *College & Research Libraries, 47*, 2.

Nygren, S. (2008), Biblioteksoro: I svensk kontext. Borås: Högskolan i Borås, Bibliotekshögskolan/Biblioteks- och informationsvetenskap. Magisteruppsats i biblioteks- och informationsvetenskap vid Bibliotekshögskolan/Biblioteks- och informationsvetenskap, 2008, 74.

Onwuegbuzie, A. J., Jiao, Q. G. & Bostick, S. L. (2004). *Library anxiety: Theory, research and applications*. Lanham, Md: Scarecrow Press.

Widerberg, K. (2002). *Kvalitativ forskning i praktiken*. Lund: Studentlitteratur.

The Need of Bibliotherapy for Children and Youngsters

Elina Sniedze
University of Latvia, Department of Information and Library Studies, Riga. Email: elina.sniedze@gmail.com

Abstract: *Bibliotherapy is the way how people can solve their psychological problems, promote their individuality and develop their character. Within the paper the concept of "The need of bibliotherapy for children and youngsters", methodology, ways and directions of bibliotherapy are analyzed. The paper will show children and youngster thoughts about their reading habits. The results of survey show that children and youngsters need the bibliotherapy as a way to solve their problems, how to build their character to be able to live a full life without the various problems that are generally presented by peers, who are trying to be better and stronger, but in reality these youngsters also have different types of problems. The problem of bibliotherapy is the question: "Who can be the bibliotherapist - librarian, doctor or psychologist?" The modern library is full of computers and digitalization, but there needs to be a place for bibliotherapy.*

Keywords: *Bibliotherapy, therapeutic reading, bibliopsychology, self-help books.*

Introduction

The paper topic is "The need of bibliotherapy for children and youngsters". Bibliotherapy is widely used, and the library's activities, and medicine, as well as the social sector. The subject is very important, but it is relatively little studied in Latvia, so there are studied materials from other foreign studies, such as book list for bibliotherapy created by the Carnegie Library of Pittsburgh.

The subject is currently very little studied and not very widely used in Latvia, because many people have not heard about it. This topic is more urgent for the children from county library reading rooms for children and as well as school libraries, bibliotherapy can help to solve the problems of children and youngsters. In addition, children are very often difficult to find and tell their problems, so the book might help them find answers to their problems without giving questions parents and professionals. The study considered the problem is that this area is under-researched and unpopular for children and young people. The study analyzed children and youngster reading habits, which was determined by the need of bibliotherapy and librarian knowledge of this method of treatment, as well as their desire to try this method.

The aim of this study is to identify the situation using the bibliotherapy for children and youngsters and popularize it in Latvia. Hypothesis of the research is "Bibliotherapy is needed to improve the quality of life for in children and youngsters".

This paper includes the overview of the studies made in Latvia and in foreign countries. The empirical base is formed of School library librarians and Madona City Secondary School No.1 students.

General Description of Bibliotherapy

Word "bibliotherapy" has risen from words in Greek language "biblion" - "a book" and "therapia" - "treatment". Bibliotherapy is specially chosen informational materials used as an effective way of treatment in psychotherapy (Groziņa, 2009). There are many other synonyms for word "bibliotherapy" that can be found in information sources, such as "reading therapy", "book therapy", "literatherapy", "therapeutic reading" and sometimes it is called "self-help reading"(Groziņa. 2010).

Bibliotherapy has many directions and ways by which help it is possible to achieve the wanted result. Bibliotherapy divides in three main forms so everybody could feel free and comfortable: individual form, group form, humanistic form. If a person is shy and introvert, there will be used a different form of treatment than if a person is active and communicable. It is important for person to feel free and unconstrained. It is possible that a person will not be able to communicate with the specialist of bibliotherapy in two person dialogue, because he is used to communicate in a bigger community (Venskuniene, 2006).

Fairytale therapy is a good way for a child or a teenager to create his perception of environment, surrounding him and comprehension about things happening in present and also about his future opportunities if he will develop his good characteristics. With the help of fairytale therapy subject identifies himself with the characters of the fairytale and starts to understand his areas of life. Content of the fairytale is easy to perceive and shows the preferences of ethical behavior. There are different methods of treatment used in fairytale therapy: analyzing the fairytale - exercise solving, writing and telling new fairytales (Venskuniene, 2006).

Poetry therapy is a way for the subject to find and see himself as a character of poem and with the help of this method he is able to feel the surrounding environment and to find some valuable lessons in poem. The first poetry specialist known is Greek doctor Soranus in 1st century in Rome, who suggests using poetry and drama in treatment Poetry therapy also uses analysis, listening and writing methods (Longo, 2004).

Bibliopsychology

This study is based on the theory of average level - bibliopsychology theory, which is made by library scientist and sociologist Nikolay Rubakin (Николай Рубакин). Bibliopsychology explores the social and psychological effects of the book to the reader; it is the science about readers, reading, authors and books (Рубакин, 1977).

He considers that author of the book and the reader need to be with similar way of thinking to understand the meaning of the book. Reading is like translating, because it is creative process. While author is writing a book, he puts his own feelings in the book, but reader can have different view of the life, emotions and character that is why he interprets content in his own way. Therefore author cannot predict how people will evaluate his book. N. Rubakin indicates that before suggesting a book we need to consider each person's individual psychology details each individual's personality and his self-education. That means that bibliotherapy specialist needs to evaluate each books adequacy to the specific topic. It must not follow the generally accepted norms and standards, for example, a boy likes to read a book about crimes, what does not mean that this kind of book will be appropriate for his friend or classmate. Furthermore, people are distinguished not only by personality characteristics, but also because of the emotional mood, which changes depending on the situation, and life events (Gerkena, 2007).

To analyze the book it is preference to have knowledge about psychology, therefore need to consider what bibliotherapy specialist - librarian, psychologist or doctor is. Currently there are no clearly defined biblioterapijas specialist skills, obligations and responsibilities, as well as what kind of education bibliotherapy specialist needs to have. Librarian knows the sort of books, how to access them and how to find the book that are needed. Psychologist knows books effect on the human nature, personality and judgment, but the doctor can study these how processes impact on health. N.Rubakin emphasizes librarian role in book suggesting. He considers that ideal librarian needs to be in harmony with himself, his characteristics and to be able to evaluate and distinguish his opinion from others as well as be able to accept other points of view. If librarian wants to suggest a book, he needs to read and evaluate before he is able to recommend it for bibliotherapy.

Analysis

Zandas Grozina has made her master thesis “The Role of Bibliotherapy for Persons Psychological Problem Solving” in 2009; the influence of bibliotherapy on persons mind is studied. The aim of this study is to get impression about bibliotherapy as interdisciplinary science, to analyze practical possibilities of using it in libraries and other organizations. There was online survey to find out experience and opinion about the use of bibliotherapy. Z.Grozina sent 618 forms for survey and got back 146 filled forms; 23.6% from all. Summarizing the public library staff questionnaires, it is concluded that a relatively large number of librarians have not a complete understanding of bibliotherapy, because it tends to be linked to high-quality user service, but these are quite different things. Judging the results of the survey, there are librarians that wants to support this method. The problem is the lack of cooperation between different institutions. Z.Grozina emphasizes: “Bibliotherapy as an interdisciplinary scientific progress would require closer psychiatrists, psychologists, teachers, social workers, librarians and other professionals together to clearly define the term ‘bibliotherapy’ and to develop regulatory documents that establish responsibility for bibliotherapy practitioners. Irresponsible behavior is unethical, so it is understandable Latvian, foreign librarian and other professional concerns related to the use of bibliotherapy”.

There is one more study “The Use of Bibliotherapy in Patron Service” made by Irina Aloschina in Latvia in 2004. It was bachelor thesis and aim of it was to study the need of bibliotherapy in library work. Empirical basis of the study is the Central Library of Riga. The study gathered information on the history and development of bibliotherapy, analyzed the use of bibliotherapy in Croatia, Russia and the Scandinavian libraries. The tasks of this study were to explore the term “bibliotherapy” and concepts development over time, discover positive impact on the reader's psychology, to clarify the role of the librarian in bibliotherapy process, view and analyze fairy therapy, to discover the practical application of work with adult readers and develop a project “Bibliotherapy Department of Central Library of Riga” (Aļošina, 2004).

There are bibliotherapy book list for children in Carnegie Library of Pittsburgh that is made by Georgene De Filippo. It is made to help for parents, teachers and other specialists to find books which are recommended about specific topic. The list is very extensive, it is divided by themes that create the basis of events and

things that are most affected by the child's reasoning, perception of life, and character creation. The books on each topic are selected by the library collection, and specially selected for preschool children age group from two to five years, but are also suitable for children of primary school age group from six to eight years. Lisa Dennis in electronic mail correspondence points out that with the list of books they want to give children the belief that their problem are for other peers too, that they are not alone. She also mentions that among all Carnegie Library of Pittsburgh built and maintained book lists this is the most popular list, that is why they try to constantly recharge it. The list is viewed 1146 times in January, which indicates that people are looking for this kind of information and book lists. The list is viewed 12,022 times in 2011; that is about 1000 views per month. The statistics show that the list is needed and used (Dennis, 2012).

Research

The main target of the research is to find out the need of bibliotherapy in life of children and youngsters, their reading habits and popular themes and genres between them. The research took place in Madona City Secondary School No.1, there were 100 survey forms spreaded in school, and 90 of them were given back. There were 64 % girls and 36 % boys from the respondents. Most of the respondents (34%) are 15 years old; the second biggest age (27%) are 13 years old. The smallest number of respondents -14% goes in 5th grade. 34% respondents go in 7th grade, but the biggest number of respondents - (51%) goes in 9th grade.

The first question was “Do you like reading books?” 64% of respondents answered “yes”, and 36% of respondents answered “no”. Unfortunately 36% respondents who don’t like to read books mostly are boys, but there are some girls as well.

In question number two every respondent had to name three book themes or genres that are actual for him. 36 themes where named, five most popular themes are: adventure, love and romance, friendship, young people and relationship, vampires. Judging by the actual themes and by the fact that the biggest part of readers are girls (64%), you can see that still quite popular is the saga of “Twilight” books written by Stephanie Meyer, it is about vampires and it includes all of the five earlier mentioned themes. Children and teenagers often find their lives boring and grey and reading books is a good way to personalize you with the characters of book and imagine their selves in some adventures, for an example to go under sea level together with captain Nemo or to enjoy mysteries in Enid’s Bluton’s series of mystery books.

A very important theme that is actual in all ages is love. Reading and entering into the spirit of romantic character, most of the people feel the love that is portrayed in the book, but there are also cases when a person reads and thinks, “Why do I cannot have like this?”, “It is only written in books, there is no love like this.” It is hard to find and recommend a good romantic literature for pessimistic people. In these cases they need to choose literature with very realistic storyline to bring in the hope into the person. Bibliotherapy does have strict limits of what books to read, a common situation is that the reader goes to the book shelf and chooses a book based on his mood. This means that the reader chooses his treatment by himself and chooses it as a free time spending or leisure opportunities.

The third question was, "When you read the book?" Most of the respondents (49%) responded with a version of "When I have the desire". This ties in with the respondents answers in the previous question, and points to the fact that reading is unconscious therapy or and it is not constrained. An individual's from his free will reads the book, plays the roles of characters and travels with them. Reading from fee will depends on emotions that each individual is formed. One of the survey participants specially highlights that she reads by her mood. 8% of respondents indicate that they mostly read on holidays, while 18% of respondents noted that they read any free time. 14% of respondents read at night. 11% of respondents responded “other”, it contains 7 replies, that they don’t read at all and 2 answers that they read books at school breaks and school studies time.

The fourth question was to write the books that the respondent has red recently. Average number of books in the last half of the year is 5, a large number of the respondents have not read a single book last six months. Very positive and encouraging response is from several girls who have red about 20-30 books in the six-month period. Here we should look closer why do they read - the desire for specific books, leisure, hobby, but maybe problems at school or in the family, and as a possible solution for hiding from problems is a book.

The fifth question was to name three recent books that they have read and justify their choice. The selection is mostly “reading for the literature lesson” unfortunately it is not a good evidence for the desire of children to read. During the survey, it was found that the fifth class girls read most actively, because questionnaires were filled carefully enough, and the fifth class questionnaires were the reasons for non-substance taught literature - “interested in the name”, “I wanted to read about the dogs”, “I read the first part of the book and I wanted to read the following book”, “I like to read stories about animals”, “I like that Pippi Longstocking book has lots of adventure”, “friend recommended to read because she liked and it seemed an interesting book”. To summarize the respondents' answers, the five most popular books: John Klidzejs “Son of a Man”, Stephanie

Mayer the “Twilight Saga”; Suzanne Collins “Hunger Games”, Christine Ulberga - Rubin “I Do Not Read Books” and other novels “You Should Not Fall in Love with the Teacher", “I Cannot Stand You”, “P.S. I Love You”, “Witches are not Allowed to Kiss”.

The sixth question was: “Do you have a book you would love to read more than once?” 11% answered “do not know”, 43% said they do not have such books. The most of respondents (46%) point out that they have a book that they would like to read again or have already read several times. It is one of bibliotherapy ’s features that one person reads the book several times, because he does not only like it, but it make him feel better and helps to understand the problems and the environment around him. Every next time reading the same book, the person has different emotions so he understands the text different. It is like reading “between the lines”, each time the book may reveal a new quote or a tutorial, the social paradigm foresees that information of each individual may have a different meaning, it is situational.

Results and Discussion

In this chapter will be results of survey and comparison with other researches that are analyzed. There are very similar results about librarian activity to answer to the survey and to say their opinion in comparison with Z.Grozina’s research. Librarians would like to support bibliotherapy as a treatment method, but they need seminars or workshops to be educated and qualified as bibliotherapy specialist.

The ways of use bibliotherapy in services for patron where studied in I.Aloschina’s bachelor thesis. After empirical study, it is concluded that the proper attitude of the librarian makes influence to the reader to be able to trust and reveal their emotions and feelings.

Looking at the list of books in the Carnegie Library of Pittsburgh, selected at each subject, we must think if Latvian books are available on the following topics and whether the themes are actual in Latvia. Therefore a small study was made about actual themes, students were asked to answer: “What kind of book topics you are like?” There as 36 themes at all, but five most popular is adventures, love and romance, friendship, youngsters and their relationships, vampires. Topics are different from the Carnegie Library of Pittsburgh book list because survey was made for children for 5-9. Grade in Latvia. Since the relevant issues have been identified, the study could be continued with creating a list of books within the National Library of Latvia collection of books.

Conclusion

During the research, the theoretical basis were described and analyzed - N.Rubakin established bibliopsychology theory, which confirms with the empirical studies. There are two Latvian and one foreign study analysis as well as empirical research on children's reading habits, and with these results the need of bibliotherapy are evaluated.

Before this research was started hypothesis was made - Bibliotherapy is needed to improve the quality of life for in children and youngsters. Hypothesis is confirmed, based on the results of the study, the majority of respondents read books when there is a desire. It is concluded that bibliotherapy is currently being used unknowingly. Children and youngsters tend to choose books to read because of the mood and situation, as well as, of course, current events and topics of popular books

The research could be continued based on corporation with the Carnegie Library of Pittsburgh and book collection that are available in National Library of Latvia. Need evaluate books and divide them into topics, it is suggested to organize promotions, exhibitions and themed afternoons for children and parents. There should be conference or printed materials for parents about bibliotherapy processes and their role in this treatment. They can read or suggest a book for their child. Children like to have practical activities and if the study is continued children literature center could introduce psychological consultations Next step for this study will be presentation of results in Madona City Secondary School No.1, to encourage children to use bibliotherapy as their treatment method if it is needed.

References

Aļošina, I. (2004). *Biblioterapijas pielietošana lasītāju apkalpošanā: Bakalaura darbs*. Rīga, Latvijas Universitātes Informācijas un bibliotēku nodaļa.

Dennis, L. (2012). *Bibliotherapy booklist*. Message to: Elina Sniedze on February 17, 2012. Personal communication.

Gerkena, V. (2007). *Mūsdienu bibliotekārās apkalpošanas pamattendences: Promocijas darbs*. Rīga, Latvijas Universitātes Informācijas un bibliotēku nodaļa.

Groziņa, Z. (2010). *Biblioterapija - ārstniecības un personības izaugsmes metode*. Bibliotēku pasaule. Retrieved December 8, 2012 from: http://www.lnb.lv/lv/bibliotekariem/Izdevumi/pielikumi/biblioteku-pasaule/Grozina_Biblioterapija.pdf

Groziņa, Z. (2009). *Biblioterapijas nozīme personības psiholoģisko problem risināšanā: Maģistra darbs*. Rīga, Latvijas Universitātes Informācijas un bibliotēku nodaļa.

Longo, P. J. (2004). *Poetry as therapy*. Sanctuary Psychiatric Center of Santa Barbara. Retrieved December 8, 2012 from http://www.spcsb.org/pdfs/resources/a-poetry_as_therapy.pdf

Рубакин, Н.А. (1977). *Психология читателья и книги: краткое введение в библиотечную психологию*. Москва: Книга.

Venskuniene, R. (2006). Biblioterapijas pielietojums. In: *Rīgas Centrālās bibliotēkas gadagrāmata*. Rīga.

Information Storage Systems for Scholarly Articles

Eva-Maria Häusner
National Library of Sweden, Division for Foreign Literature, Stockholm, Sweden. Email: eva-maria.hausner@kb.se

Abstract: *This paper aims to focus on how students administer electronic scholarly articles after they have found them. The purpose of the study is to detect how and to what extent people administer their articles. A web-based questionnaire survey was distributed. The respondents were asked to rate the frequency of their different information administration behaviors on a seven level Likert-type-scale. The findings generally confirm that the majority of the students are using scholarly articles. The results highlight that most of the students use several method types and use them to varying extent. The respondents preferred furthermore to read the articles on a screen rather than on paper. Irrespective of which method the students use, they often combine different methods. Specific methods such as saving an article in a database are used very rarely. These results and the knowledge about storage patterns will help librarians to improve services like courses in information seeking and develop new competences for themselves and the users.*

Keywords: *Scholarly journals, graduate students, information systems, information behavior, personal information management.*

Introduction

The majority of previous research in the field of personal information management (PIM) is concentrating on how people store information in general. The dealing with and administrating of specific types of information are, however, rarely discussed. In the context of scholarly articles research predominantly has focused on seeking structures and reading patterns. The step between finding and reading an article has so far not directly been addressed in academic research. The study therefore is unique in addressing information storage systems for scholarly articles on a large scale. Knowledge about storage patterns will help journal publishers and librarians to design more targeted solutions for journal systems and improve services like courses in information seeking.

Methods

A web-based questionnaire survey was distributed to answer the research questions. The specific research questions were the following:

- Which methods for information storage of electronic scholarly articles or of references to articles are most common?
- Do individuals use many different information storage systems or mainly one?
- Which factors (age, gender, subject discipline) have impact on the choice of information storage system?

The questionnaire survey was distributed to 2037 graduate students within different subject disciplines from different universities in Sweden. In Sweden the subject fields are divided into seven different subject disciplines (humanities & theology, law & social science, science, technology, medicine & odontology, nursing & care, arts). The present study is based on an analysis of individual storage practices of electronic scholarly articles. The basic data consists of 366 answers, which means that the percentage of answers was 18%. The empirical data were gathered using a web-based questionnaire survey (using the survey tool LimeService http://www.limeservice.com) in February and March 2012. The survey consisted of 40 questions, whereof 26 questions were on a seven level Likert-type-scale. 22 questions directly dealt with different forms of individual storage practices. The questions differed in degree of specificity and therefore three different levels could be identified: The most general level consisted of three so called basic alternatives, the next level of four method types and the third level eventually of specific methods. Other items in the survey concerned questions on the respondent's sociodemographic status, as well as some questions with open-ended structure. The focus of the questionnaire was to get knowledge about information administration behaviors. In general, all questions were grounded in previous research (Hemminger & Niu 2012; Jones, Dumais & Bruce 2002; Liu 2006; Tenopir & King 2002; Tenopir et al. 2005; Tenopir et al. 2009). Following the concept of that research, the questionnaire was tested in a pilot study (n=15) and modified according to the findings and comments of the respondents. After collecting the answers of the

graduate students, the data were screened. The results are based on 316 complete answers. The mean value of year of birth of the respondents was 1982, 67% of the respondents were women and 33% men. The mean value of their period of studies was 10 terms and 65% had taken part in an information seeking course.

Analysis

The Shapiro-Wilk test showed that the dispersions were not normal, therefore non-parametric tests were run. The data were analyzed using non-parametric tests such as Friedmans, Kruskal-Wallis, Mann-Whitney-U, Wilcoxon-Signed Rank, Spearmans and Chi-square with the statistical computer program SPSS version 20.0.

Results

The findings generally confirm that the majority of the surveyed graduate students, 87%, are using electronic scholarly articles. Regarding their information management, it is equally common to store the whole article as it is to store its reference. Wilcoxon-Signed Rank Test with Bonferroni-correction shows that it is significantly more common to store the article, $Z=-10{,}00$ ($p<0{,}01$), as well as to store its reference, $Z=-10{,}46$ ($p<0{,}01$), than "neither save the article nor the reference, knowing that you can search the article again". Furthermore, it is more common to choose electronic storage methods for articles and references than to use physical methods. The results highlight that most of the students use several method types and use them to a varying extent. Neither age, had computer skills, duration of study or satisfaction with their way of information storage influenced the quantity of used methods. There isn't either a significant correlation between satisfaction and taking part in an information seeking course, even if there is a tendency to a light negative correlation, $rs=-0{,}11$ ($p=0{,}06$). But there is a correlation between all method types, with an exception for one, and satisfaction. There is for example a correlation between the tendency to store a digital copy of an article and satisfaction, $rs=0{,}22$ ($p<0{,}01$). Furthermore the students are more satisfied when they use a method type more often. Regarding specific handling, the storing of article copies on the computer's hard drive was most frequently used. The respondents additionally preferred to read the articles on a screen rather than printed paper versions. Influencing factors of gender, age, computer skills, and subject discipline could be identified in affecting the choice of methods. General conclusions of these influencing factors are, however, problematic since confounders have to be considered. Moreover, occurring method types were used to different extents depending on discipline of study.

Discussion

The important result of this study - that the surveyed students use a variety of methods managing their scholarly articles - is confirmed by other researchers like Jones, Dumais and Bruce (2002) who presented findings on web information and a diverse usage of methods. The fact that it is equally common to store an article as it is to store its reference, can be explained with the findings of the mentioned researcher Jones, Dumais and Bruce as well: The students do not have to select one method since the different methods are not excluding each other. Previous research concentrated mainly on reading patterns. Tenopir (2009) found out that it is more common for academics to read a scholarly article on paper than on screen. In Lius' (2006) study even 90% of the respondents preferred to read scholarly articles on paper. Hemminger and Niu (2012), who gathered their data 2006, stated that people prefer to combine reading electronically and on paper depending on the scholarly articles. As opposed to Hemminger and Niu, the results of this paper indicate that it is more common to read an article on screen than on paper. A possible explanation is the fast development of portable reading devices and tools for making notes in electronic documents. Furthermore, the respondents of the studies were different: In Tenopir's (2009) study the average age of the surveyed people was 46 years, in this study the average amounted to 30 years. Irrespective of the attempts of explanations, the finding can be considered as an indicator of persistent change. Librarians should notice those developments and teach reading methods in information seeking courses.

Database storage functions or reference management software were rarely used methods among the surveyed graduate students. A possible interpretation of this finding might lie in the convenience that students prefer to use methods which also are applicable in their everyday life. This is backed up by the fact that students are more satisfied when they use a method more often. The most popular way of administering articles was saving them on the computer's hard drive. Hereby, it has to be considered that graduate students usually don't have the same needs as researcher do. Graduate students work on their papers and theses for an estimated period of several months; researcher, however, need to have access to their material and articles for a longer period of

time. General methods like printing articles might therefore be more sufficient for students. It seems particularly important to the respondents to feel convenient with a certain method rather than to choose the most qualified one. This can possibly explain why the method of storing articles on a computer's hard drive is especially established among graduates. Since downloading and storing files like music and pictures is generally quite common, this method seems fast and automatized and is thus applied in administering scholarly articles. Already here, librarians could intervene and provide different possible method solutions. The development of new storage possibilities is fast. In Sweden, it is almost obligatory, that every student have to participate in an information seeking course at the university library. The students learn how to use the library resources, how to find relevant literature, how to write references etc., but not what to do after they have found their material nor how to manage their information. This is a practical example of what a librarian can work with in the future - developing current services like those courses. Librarians should implement information management and storage methods in those courses and help the students to develop their competences.

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References

Hemminger, B. M. & Niu, X. (2012). A study of factors that affect the information-seeking behavior of academic scientists. *Journal of the American Society for Information Science and Technology, 63*(2), 336-353.

Jones, W., Dumais, S. & Bruce, H. (2002). Once found, what then?: A study of "keeping" behaviors in the personal use of web information. In: *Proceedings of the 65th Annual Meeting of the American Society of Information Science and Technology (Asist 2002),* (pp. 391-402)

Liu, Z. (2006). Print vs. electronic resources: A study of user perceptions, preferences, and use. *Information Processing and Management, 42,* 583-592.

Tenopir, C. & King, D. W. (2002). Reading behaviour and electronic journals. *Learned Publishing, 15,* 259-265.

Tenopir, C. et. al. (2005). Relying on electronic journals: Reading patterns of astronomers. *Journal of the American Society for Information Science and Technology, 56(*8), 786-802.

Tenopir, C. et. al. (2009). Electronic journals and changes in scholarly article seeking and reading patterns. *Aslib Proceedings*, *61*(1), 5-32.

New Learning Spaces at German Universities: A Survey Initiative of the Task Force Learning Spaces of DINI

Anke Petschenka
University of Duisburg-Essen, Duisburg, Germany. Email: anke.petschenka@uni-due.de

Tom Becker
University of Applied Science Cologne, Cologne, Germany. Email: tom.becker@fh-koeln.de

Ursula Georgy
University of Applied Science Cologne, Cologne, Germany. Email: ursula.georgy@fh-koeln.de

Abstract: *The following paper focuses on a survey initiated by the task force Learning Spaces of DINI on New Learning Spaces at German universities. The emphasis here is on the category "Virtual Learning Spaces" and will be discussed in the context of differences between physical and virtual learning spaces and on the backdrop of the general changes in society and the challenges universities are facing. To find out what is the state-of-the-art concerning virtual learning spaces at German universities, initially an appraisal was done. To find out, why many universities did not make entries in the main-categories and in the sub-categories, three libraries have been chosen for in-depth interviews to find out the reasons for this omission. It is evident that many libraries focus on technical products and services without describing the physical and the virtual dimension. Most libraries don't mention the interaction of both worlds and don't describe pedagogical and didactical concepts. This omission will be discussed also regarding the missing explanation of categories in the beginning of the survey.*

Keywords: *University library, virtual learning spaces, survey, German Initiative for Network Information (DINI).*

Introduction

New learning spaces have been set up at various German universities, inspired by experiences in British libraries during the last five to ten years. The main purpose of such "Information Commons" is offering combined services, technical or library-orientated, to help students through their academic life cycle. The cooperation of libraries and service units is the key aspect for a flexible and successful learning under one roof, on and off campus.

In order to exchange experiences between German academic service units, the task force "Learning Spaces"[1] of the German Initiative for Network Information (DINI)[2] was founded in 2009. DINI is committed to improve the information and communication services in higher education institutions. Members of academic service units and other units are participating in different task forces to discuss about modern information and communication technologies. The members of the task force "Learning Spaces" are experts in their fields and come from different German universities. The task force elaborated important aspects for future learning centers, e.g. pedagogical, organizational and technical aspects. The initiation of a students´ idea competition to conceptualize and visualize "future trend learning spaces in universities" has already succeeded in 2009.

In 2010, the task force initiated the survey "New Learning Spaces at German Universities". It is supposed as an atlas to document the situation at German universities. For the evaluation, the author focused the main-category "Virtual Learning Spaces", in order to find out, which topics have been referenced to get an impression of the up-to-date situation at German universities and why many universities did not made entries in this category.

The considerations of the survey results can help to reflect own learning space concepts or can influence the decision in the planning phase. Moreover, the results can be helpful to find out which aspects a library should focus to realize an integrated concept for new learning spaces e.g. reflection of technological and pedagogical

[1] Website task force Learning Spaces of DINI: http://www.dini.de/ag/lernraeume/.

[2] Website German Initiative for Network Information DINI e.V.: http://www.dini.de/.

driven sight of view, awareness of innovative aspects and of services other service units are providing, building up competencies to express differences and the interaction of both dimensions - of physical and virtual learning spaces.

Learning Culture Meets Bologna

Because of the changes in society and the challenges universities are facing e.g. mass universities, demographic trend, new media technologies, students request new and innovative services adapted to their digital lifestyle. They anticipate "24/7" -availability of systems and services for their studies on and off campus. Moreover, each learner has individual preferences related to his learning strategy and learning style. Learning becomes individually, informal learning becomes more and more important. According to Jay Cross (2007) students profit from informal learning situations in daily life, at work, at home and throughout the society, it is an alternative learning method to formal learning. An increasing part of today´s studies has to be organized informally and self-organized. Students come together and discuss and work on different topics in self-organized learning teams.

Universities should provide innovative spaces for individual students and student groups to help them to organize their scientific learning and working process efficiently in all its stages from scientific research, to the realization and presentation of their projects. They should also provide services and technologies for formal and informal settings as well as for self-managed learning teams. The support and infrastructure is provided mainly by the central service units at universities. Libraries and computer centers bring together students ideas and the resources of the university. Learning spaces have to be flexible arrangements mediating media-supported with interpersonal learning, individual and group work, self-learning and tutoring (Petschenka & Engert, 2008; Petschenka & Weckmann, 2011).

This requires different aspects which should be regarded seriously (Petschenka & Engert, 2008; Bilo et al., 2012). Hence, service units should:

- offer different zones from "silent" work places to a variety of group working areas, flexible arrangements in and between working spaces as well as ergonomic and aesthetic furniture,
- provide a technical infrastructure such as broadband Internet access, hard and software, notebook places, technical service and easy access (single-sign-on) for computers, notebooks and mobile devices as well as the availability of a wide range of analogous and digital information services and technologies,
- provide a widespread support for students and teachers, providing didactical and technical support through help-desks, student advisors, professional media and information management consultants and coaches.

To overcome the limitations of traditional learning environments and to support scientific work more efficient, new technologies can be helpful to support students independently of time and place. At German universities, the digital student-life-cycle is mostly realized. Libraries support scientific work implementing new media technologies and providing online services e.g. Online-Catalogues (Discovery-Systems, Institutional Repositories, Online-Databases), Online-Tutorials, Online-Lending, Virtual Tours, Learning Management Systems, Audio-Guides.

Considering modern and innovative learning spaces in universities, it is significant, that physical and virtual learning spaces have already merged. This interlacing correlation between physical and virtual learning spaces has already been documented by students who participated in the students´ idea competition to conceptualize and visualize "future trend learning spaces in universities" in 2009. According to the student´s ideas, spaces in general should provide the following characteristics (May, 2010):

- access to digital and conventional media,
- technical and physically infrastructure to support efficient learning,
- web based working environment,
- services for all learning needs,
- support concerning information literacy and media competencies.

The physical learning space is the basement for all further considerations to connect both learning spaces. This integration must feature the following aspects (Bilo et al., 2012):

- providing simple transfer between "both worlds",
- using different information channels and offering different tools to reach different target groups,

- didactical and inspiring concepts as well as tutoring support,
- focus on quality.

In general, talking about learning spaces, the focus lies almost on physical spaces. In the following paper, the virtual learning spaces will play the mayor role. But the fact of combining both worlds should be kept clearly in mind.

Description of the Project

The project was realized as a university project in the context of the study program "Master of Arts in Library and Information Science (MALIS)"[1] at the University of Applied Science Cologne, Germany. The author is working as a librarian at the University Library Duisburg-Essen[2], Germany. The following paper is focusing the results of the project "Survey Initiative of the task force Learning Spaces of DINI" which was submitted in August 2012.

The task force Learning Spaces of DINI initiated in November 2010 the survey "New Learning Spaces at German Universities" to get an overview about the situation of new learning spaces at German universities. The data should be understood as an atlas or a documentation of modern and innovative learning spaces as well as an inspiration for universities who are actually planning new buildings and/or are restyling learning spaces in terms of constructional measures, different working spaces, services or implementing virtual services and products.

Since 2010, altogether 30 universities have participated: 24 university libraries, 3 centers for information and media services, a center for media services and an institute. To simplify the participation, an online form was developed. For promotion, all university administrations and the management level of service units have been contacted, expecting them to forward the request to the important players of each unit.

The topic of the survey "New Learning Spaces in Universities" was split into six main-categories[3] (Fig. 1) and six sub-categories[4]. Obviously, the first two main-categories "Building/Re-Building" and "Work Spaces" have been filled out by all institutions (30/30). Other categories, e.g. "Information Literacy" (20/30) or "Virtual Learning Spaces" (12/30) have not been filled out by all institutions.

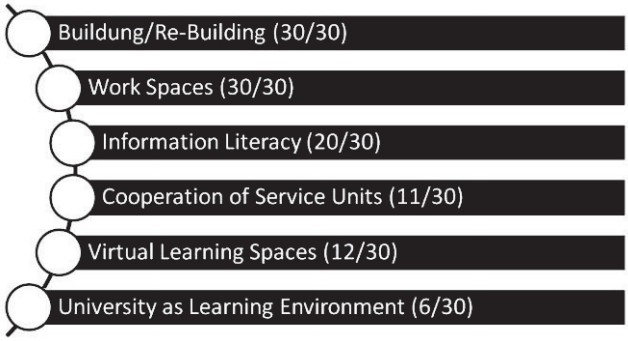


Figure 1. Main-categories of the survey "New Learning Spaces at German Universities"

In the project semester the author investigated the category "Virtual Learning Spaces", in order to find out:

- which entries have been done (appraisal), to get an impression of what is "state-of-the-art" concerning virtual learning spaces at German universities,
- why many universities did not made entries in the category "Virtual Learning Spaces". Only 12 of 30 universities, merely 12 of 24 university libraries, had made entries here.

[1] Website of the Master of Arts in Library and Information Science (MALIS) at the University of Applied Science: http://malis.fh-koeln.de/

[2] Website of the University Library Duisburg-Essen: http://www.uni-due.de/ub/

[3] Main-categories: 1. Building/Re-Building, 2. Work Spaces, 3. Information Literacy, 4. Cooperation of Service Units, 5. Virtual Learning Spaces, 6. University as Learning Environment.

[4] Sub-categories of main-category "Work Spaces": 1. Group Work Spaces, 2. Training Courses, 3. Special Working Places (e.g. multimedia), 4. Specialized Working Spaces (e.g. people with special needs, parents), 5. Lounge/Cafeteria, 6. Outside Area.

Hence, she explored the reasons for this omission because it was evident, that some of the 12 university libraries are realizing and presenting new innovative services on conferences, also on their websites and some of them are known as experts in the field of new media technologies. Therefore, it was of special interest why they did not fill out the category, although they provide innovative services and products of remaining interest.

Methodological Approach

In the beginning of the evaluation, the following four steps have been defined:

Step 1: Appraisal

All entries were surveyed to find out how respondents understood this category and to get an impression of what is "state-of-the-art" concerning virtual learning spaces in university libraries. Significantly, most of them concentrated on electronic products e.g. learning management platforms, online-tutorials or information systems to simplify organizational processes for scientific learning. Only few libraries have allocated their products to physical and virtual learning spaces, one library allocated the products to its specific organization, one library mentioned the difference between physical and virtual learning spaces and discussed their products and scenarios for the virtual dimension. Another library defined the concept of a "convergence of real and virtual learning spaces". Two libraries described physical and virtual learning spaces in other main or sub-categories.

Step 2: Reflection of the Entries and Some Considerations

The following reflections and considerations were helpful to understand the entries done by university libraries:

The fact that libraries referred to electronic products makes clear that libraries mainly invest in technical products to help students and academic staff to organize their scientific research and projects. They mainly focus on technical, infrastructural and organizational aspects, though pedagogical and didactical aspects are playing a sub-item part. They don't interpret the category "Virtual Learning Spaces" as a social and learner-orientated dimension. Maybe, some of them would have added this aspect, if they would have known that it was a sub-question of the category.

The fact that libraries are currently planning together with other service units a new concept makes clear that the topic is up-to-date and can also be discussed in a wider frame at the university, also as a strategic university vision.

The fact that some libraries are discussing about the interaction of physical and virtual learning spaces show that they understand the difference between the two dimensions and take the chance to combine both worlds. It is ambiguous, that they are not really discussing it as a strategic concept, aside from one academic library who mentioned its concept of "the convergence of real and virtual learning spaces".

The fact that some libraries describe its services and products in other main or sub-categories show, that they might not be aware of the term virtual learning spaces or the services at their own institution/university. This leads to the assumption that there might be "hidden" virtual learning spaces which have not been mentioned or which are provided without considering it.

Step 3: Reflection of the Methodological Approach of the Survey

Because of the technological driven answers, it was necessary to reflect the methodical approach of the survey. One year after starting the survey, the task force noticed that entries have not been done as it was requested. Therefore, the survey was modified and the main and sub-categories have been defined for the first time and have been published (Gläser & Petschenka, 2012). Probably, the explanation of the categories should have been conducted in an earlier stage of the survey. Furthermore, Gläser & Petschenka (2012) defined the category "Virtual Learning Spaces" by expressing also the virtual dimension, the combination of both worlds as well as pedagogical and didactical concepts. It can be assumed that the description could have had an influence on the entries in a positive sense.

In fact, it is not clear which university players have been informed about the survey and have supported it by forwarding the survey to the important players. The scissor between out-of-date entries adverse to newest entries is also a big problem. According to these aspects, the survey cannot be described as a state-of-the-art showcase because many entries do not deal with the newest information. Because of these critical reflections, the task force is re-organizing the survey and is looking for a new approach.

Step 4: Interviews with Three Academic Libraries

Because this analysis did not yield satisfactory answers, three university libraries which are active players or are known speakers at conferences concerning innovative librarian topics have been chosen for in-depth interviews on reasons why they did not fill out the category "Virtual Learning Spaces".

The answers in summary are: They understand virtual learning spaces as interlinking physical and virtual learning spaces, but do not provide an interlinking setting or they take it for granted and provide a wide interlinking range of products and services. Another library is currently talking with other university players to develop a virtual learning space concept.

Conclusions and Further Prospects

The entries done in the category "Virtual Learning Spaces" by 12 university libraries are technical orientated. Only few libraries are allocating their products to physical and virtual learning spaces, without discussing it´s next dimension. At least one library is discussing its new concept of "the convergence of real and virtual learning spaces". The results of the in-depth interviews of three German librarian players show, that the reasons not filling out this category can be interpreted in a large scope emphasizing the necessity of virtual learning spaces. Virtual learning spaces are important or have been realized in the meantime (some entries might not be up-to-date). They are currently planning virtual learning spaces together with other service units or already provide virtual learning spaces emphasizing that the interlinking of both dimensions should be considered as normal, it should accentuate something more innovative rather than providing basic technologies e.g. learning management platforms.

It seems to be a question of definition how to interpret the term "virtual learning spaces". It can be assumed, that the definition of virtual learning spaces is not commonly used in German university libraries, some people might don't know how to categorize it. This leads to the assumption, that learning spaces have different dimensions. It is a question of perspective, of knowledge and of different media competencies to allocate products to both worlds, to understand its operational area as well as its interlinking opportunities. Interestingly, most scenarios in all main-categories e.g. information literacy are provided for the physical dimension, the virtual component plays a sub-part.

Therefore, universities should support its members by simplifying their scientific learning and working process in all its stages, as well as providing services and technologies for virtual learning spaces for formal and informal settings. Learning spaces of both worlds should be discussed as a university strategy. Virtual learning spaces are one of the keys in the field of attractiveness in the tertiary education. German universities especially still have to increase and extend the development of eLearning and its sustainable integration, eLearning should become a normal part of university practice, complementing and replacing traditional teaching methods. To realize innovative changes, it depends on the readiness and the openness of the university.

References

Bilo, A., Petschenka, A., & Scholle, U. (2012). Mehr raum zum lernen für die generation internet. Konzepte und Erfahrungen in der Umgestaltung der Universitätsbibliothek Duisburg-Essen. *BuB. Forum Bibliothek Information*, *2*, 130-135.

Cross., J. (2007). *Informal learning: Rediscovering the natural pathways that inspire innovation and performance*. San Francisco: Pfeiffer/John Wiley & Sons.

Gläser, C., & Petschenka, A. (2012). Neugestaltung von lernräumen an hochschulen. Umfrage der DINI AG Lernräume. *BuB. Forum Bibliothek Information*, *2*, 136-137.

May, A. (2010). Einleitung. Eine gesamtuniversitäre Herausforderung - Perspektiven des studentischen Ideenwettbewerbs "Lebendige Lernorte". *Studentischer Ideenwettbewerb "Lebendige Lernorte" 2009. Betrachtungen der DINI-Arbeitsgruppe "Lernräume",* 6-13.

Petschenka, A., & Engert, S. (2008). *Perspectives at the e-university: Innovative learning and teaching scenarios at the University of Duisburg-Essen.* Retrieved October 30, 2012 from http://www.g-casa.com/PaperDatabase.htm.

Petschenka, A., & Weckmann, H.-D. (2011). Lernräume und dienstleistungen an der Universität Duisburg-Essen: Die Zentralen Einrichtungen im Blick. *PIK - Praxis der Informationsverarbeitung und Kommunikation, 34,* 2, 116-123.

Students' Perspectives towards Learning Centers

Muharrem Yılmaz
Hacettepe University, Department of Information Management. Email: yilmaz.muharrem@gmail.com

Dydimus Zengenene
CCARDESA, Botswana. Email: dydimus.zengenene@gmail.com

Sanita Maleja
Library Association of Latvia, Latvia. Email: sanita.maleja@gmail.com

Abstract: *Technology plays an increasingly significant role in shaping libraries and other information management institution. Spearheaded by information technology the evolution of information services has led to diverse changes in the way libraries and related institutions function. The increased availability of electronic resources, digitization and use of social media are amongst top topics discussed within the profession. One of the main changes is a direct response to the dominance of ICTs in the field is the transformation of "libraries" to "learning centers".*

Advocates of Learning Centers argue that the changes have forced libraries to focus on the learning process. It is not clear whether users consider the transformation to be significant and positive. One of the institutions that has adopted the concept of learning center is the Oslo and Akershus University College of Applied Science (Høgskolen i Oslo og Akershus, HIOA[1]) in Oslo, Norway.

This study aims to investigate the first impressions and perspectives of the students on the concept of Learning Centers during their first year of joining the institution.

The outcome of the research will be used to differentiate learning center services from the traditional library services from the users' perspective in an international environment as well as to explore the ways in which libraries and library usage is changing.

Keywords: *Learning centers, libraries, Oslo and Akershus University College of Applied Science*.

Introduction

Educational institutions have been criticized for being slow to adopt what their users really want. Universities are on a verge of an open, remote and flexible learning. The development of universities will depend on their ability both to transfer and gain knowledge. The advent of new technologies allows experiencing a more open and self-oriented learning. Therefore the university management ought to focus on the teaching and lecturing as well as provision of space for learning much the same.

A traditional learning process is carried out in class and is subject to fixed schedules. The style, pace and subjectivity of the teacher influences the learning process. Learning centers are the places to avoid that (Finerty, 1997; Hughes, Krug, & Vye, 2011). Learning in a broader sense includes not only the cooperative and independent studies; it's a process of building community, reflection and productive conversation. It all has to have a sense of purpose and enhance creativity, knowledge and intellect of individuals and university as a whole (Finerty, 1997).

Objectives

This paper aims to investigate the first impressions and perspectives of the students on concept of Learning Center during their first year of joining the institution. The research also strives to learn students' expectations in using the learning center. The research attempts to find any notable positive and negative differences between the Oslo and Akershus University College of Applied Science Learning Center and the library systems used in students' home countries. Students were asked to evaluate and compare the satisfaction levels and to give reasons for any differences.

[1] http://www.hioa.no/

Research Design

The data was collected in a combination of interviews and student focus groups. The survey was conducted among international students in HIOA. Respondents were selected from students of the International Master in Digital Library Learning (DILL). DILL is a two year master program offered by HIOA in collaboration with the University of Parma and Tallinn University. The DILL program is followed by an international group of students therefore makes the views collected in the survey representative and diverse.

Methodology

The respondents were selected and interviewed purposively to represent different national backgrounds. Gender was not essential, hence the identification of every participant as "she or her" despite the fact that some were male. A focus group discussion of students of mixed nationalities was organized to discuss the same questions that previously assessed during in-depth interviews. This was done on the assumption that views expressed during face-to-face interviews might change in a group setting (group syndication).

All respondents share a similar background of library studies. It was expected to aid the research with critical observations based on the theoretical knowledge they had.

Learning Centers

A Learning Center is designed like a "one-stop-shop", as defined by Barratt and White (2010). It serves as a combined classroom; library and computing facility. Students may experience the full spectrum of learning and creating in one assigned building. There are allocated quiet study areas, rooms for group work, soft seating, coffee shops and even kitchens all for the use by visitors (Barratt & White, 2010).

Management

University Learning Centers are run jointly by libraries, computing services and faculty support units. Learning Center management diverges from the traditional librarianship. The librarian now plays a role of an information assistant or rather - an information adviser who combines the duties of librarianship and IT support (Jeapes, 1996). Information advisers continue to provide research support just like librarians did. They conduct both in-person and virtual references. The same information assistants could be available for classroom teaching if faculties require assistance with library resource guidance in the class (Barratt & White, 2010). But no one plays the role of a teacher in the learning center where the main duty is to facilitate communication (Hughes, Krug, & Vye, 2011).

All units work together, usually with the help of a student workforce which aids to staff the help-desks. In order to become assistants, students must demonstrate both customer service and technology skills. It is significant to have capable staff to ensure success of the Learning Center (Barratt & White, 2010). The number of staff is not directly dependant on the number of visitors. The users generally are self-sufficient; they do not need appointments or assistance with finding a learning place. Also, it limits the influence of the assistants in the communication of users. Users tend to guide fellow students and friends by advice on information resources (Hughes, Krug, & Vye, 2011).

An Open Space

A Learning Center is an open space provided for open access - users may come in and work on their own material but always have someone to help (Jeapes, 1996). The users may come in for study and to take classes, they can participate in group activities, write and research. The faculty members, on the other hand, come in for teaching classes, meet the students and conduct trainings (Barratt & White, 2010). It is important to pay attention to designing the learning center. All the possibilities should be put on show in order to showcase available options (Jeapes, 1996; Hughes, Krug, & Vye, 2011).

A center consists of different zones to relax and gather for group works (Hughes, Krug, & Vye, 2011). The experience of The University of Georgian Miller Learning Center shows that students tend to take initiative and allocate the quiet study areas themselves by discouraging students from talking (Barratt & White, 2010).

Student involvement is crucial for defining how they prefer to use the available space and also help to plan the services they would find helpful. The feedback can be easily gathered in several ways: counting the quantitative traffic in use of services and resources; and the qualitative information that can be gathered via surveys both from students and faculties (Barratt & White, 2010). Constant feedback is the key for improvement. For an international society the Learning Center may serve as a culture point. A Japanese example of an International Learning Center shows that elements typical to the culture help to achieve sense of stability, relaxation and more at-home (Hughes, Krug, & Vye, 2011).

One of the main challenges in managing the Learning Center could be the size of premises and variety of offered services (Barratt & White, 2010). On the other hand, the open planning of the Learning Center serves as a visible platform to what is happening inside. Therefore, users entering for the first time feel much more comfortable (Hughes, Krug, & Vye, 2011).

Technical Possibilities

A Learning Center provides a lot more study places than traditional libraries, all of those should be IT compatible. The center acts as a communication hub at times when a student is away from the university (Jeapes, 1996). Onsite different technologies are provided - computers, wireless network, Ethernet ports, electrical outlets, software suits, printing products, digital media editing and creation tools etc. (Finerty, 1997; Barratt & White, 2010; Jeapes, 1996). In addition to access to personal computers, laptop loans have proved to be successful. These laptops can be upgraded with preinstalled with specific programs and connected to intranet for wireless printing (Barratt & White, 2010). The Learning Center may include other facilities like those for media production (TV or graphics studios, print units, university press, multimedia designers etc.) (Jeapes, 1996).

There are service points that help to troubleshoot problems, assist in software installation, and provide directions and assistance (Barratt & White, 2010). As with the fees and charges, Learning Centers usually remain free just as universities are. The only fees students and staff may be expected to pay are for printing and similar costs that normally are kept to the minimum (Jeapes, 1996).

Learning Culture

It is important to have the space developed both as a learning and action environment. Action learning is learning by doing. Therefore the learner is required to take responsibility for the learning and is proactive in the process. It gives a lot more control over individual's development. It also helps to enhance creativity since it develops an individual's facilitation and coaching skills, ability to apply new solutions (Finerty, 1997). A study of a learning center (English Resource center) in Japan (Hughes, Krug, & Vye, 2011) has shown an increased English proficiency which was directly dependent on the amount of times students attended the center. Looking into the reason the researchers concluded that the increase is dependent on autonomous social interaction.

The key factors to develop the learning culture are quality of relationships, shared reflections, productive conversations and productive thinking. A combination of these factors helps to accelerate the learning and creation of knowledge as well as for individuals to build motivation and meaning (Finerty, 1997).

For international students, Learning Centers play an important role as a place where to participate in authentic target-language interaction. It all happens outside the formal language classroom. The traditional classroom may offer the conveyance of the main points in lessons, but is limited in other exchange patterns and ways of learning.

The HIOA Learning Center

HIOA is Norway's largest state university college, with a student body of approximately 17,000 students and 1,850 employees. HIOA has four faculties located at two campuses and has Learning Centers in 4 different locations within the two campuses. These Learning Centers are multi-professional meeting places, including library, IT and Audio Visual services.

The HIOA Learning Centers are in charge of providing services that ensure high education and research quality for the students and faculty members. The Centers offer various services to support active learning such as how to write academic papers, making reference lists, IT support as well as library materials circulation.

Data Analysis

Face to Face Interviews

One respondent from Iran believed that the term Learning Center is just a modern name to refer to a library of today which happens to be more advanced in terms of functionality and appearance. She calls the term "a modern face of libraries". This might suggest that the term Learning Center is just part of the marketing jargon that some libraries have adopted. However the same respondent noted that there is a difference in the focus of the two systems. By bringing together all supportive equipment like computers, books, internet, audiovisual materials and the necessary support, the Learning Center provides an opportunity to focus on the learning process and research in comparison to traditional libraries.

A responded from Ireland observed that there was not much difference in terms of functionality. However she observed that the IT services are emphasized. Therefore it gives an impression that the Learning Center has more electronic services and more resources for remote access than traditional library does. To her "it was clear that the Learning Center is a library".

Given the modern approach to learning, one respondent observed that traditional libraries are becoming more focused on preservation of their hard copy material, whereas Learning Centers are focused on provision of access to learning material in whatever means and format possible. She observed that libraries will remain valuable in future as cultural artifacts while the new ways become dominant. Despite the shift, the same respondent thinks that patrons still require assistance in the information retrieval process nowadays in the Learning Centers just as they did in the libraries. The same respondent said that she feels better in a Learning Center than in a library. At the same time she paradoxically stated that she enjoys being surrounded by books than computers while studying. She also mentioned that she feels comfortable calling the Learning Center "a library" as no huge difference can be noticed.

An interviewee from the Philippines also noticed the presence of computers and the general appearance as the main difference between the learning center and the library that she is familiar with in her home country. She felt that ordering of the material in a Learning Center was very impressive. For her, the term Learning Center never meant anything different from a library as back home she is aware of libraries that are called "Learning Resource Centers". However she has learned that a Learning Center might be a place where people can actually 'sit and learn' in addition to accessing resources.

For a student from Hungary, the term Learning Center did not mean anything different from a library that she is familiar with. The Learning Center looks modern in face and style. To her that's merely how all things are expected to be nowadays. However in the libraries that she had used previously, she had far less interactions with IT skilled staff. This observation might imply the presence of massive IT support services in the Learning Center when compared to other libraries.

Focus Group Discussions

The group also noticed the main difference to be on the quantity of computers, the Learning Center has more computers than the libraries which they were familiar with. For some participants there was no confusion with the term Learning Center; it was easy to tell that the Learning Center at HIOA was the library of the institution. The term Learning Center was regarded as one of the multiple names which are given to libraries in different operational settings, i.e. industry, research centers etc. It emerged that libraries can be called knowledge centers, information centers, resource centers etc. To some students, the term Learning Center didn't imply any difference from a library.

One participant reported that at first she wondered why the library was called a Learning Center. Later she discovered that there was actually learning going on in the Learning Center. Librarians were teaching effective information retrieval; assisted in academic writing in a rather informal setting etc. Some observed that there is a very open atmosphere in the Learning Center thanks to better study places, cafeteria, and meetings points for social discussions and group work.

One participant observed that the library and the Learning Center is the same thing. It is only that people now prefer different terminology for marketing purposes. The term library is now old-fashioned and unattractive to modern institutions and to modern librarians. However people are used to calling it a library even when it changes slightly in its functions. That is the reason why students still refer to the HIOA Learning Center as a library.

Another participant observed that improvements in ICT driven information services are threatening to the way libraries function, including their name. To stay relevant they must adopt ICTs within their services. However IT people would not be comfortable to be called librarians and vice versa. In order to merge the services, a need for a new term Learning Center is essential.

Another student thinks that all depends on the focus of the institution. Whereas the purpose of a library is to support researchers and students in learning, the term library does not seem comprehensive enough to cover all the processes taking place in a library. The table below summarizes the main differences identified during data analysis.

Table 1. Differences between libraries and learning centers

Feature	Traditional Library	Learning Center	Remarks
Space	- Most space is occupied by books; less space for computers and browsing - Less space for social encounters	- Shared space by books and computers (emphasis on computers) - More space for social interactions, group work etc	
Ambience	- Traditional - Not very friendly	- Friendly, free, modern	
Equipment	- Mainly book shelves and printed materials - Reading desks	- Computers - Audio visual materials etc - Books and bookshelves (not much) - Study desks as well as lounge areas	- One can also borrow laptops, cameras and other digital equipment in LC.
Collection	- Mainly printed information - Hard copy periodicals - Electronic resources accessible from few computers - Old collection, rare weeding	- Few books with many computers - Online is regarded as the key information source - Modern, dynamic, up-to-date collection - The collection includes computers and other audio visual gadgets which can be loaned out	- One respondent mentioned that libraries are conservation oriented (they *need* to collect and own material)
Service	- Relatively slow	- Fast, IT supported service	
People	- Mostly librarians giving user assistance	- Librarians and IT staff seen giving support	

Conclusion

The research found that the difference between a library and a Learning Center is not very noticeable for students. Even though the Learning Center is remarkably different from other libraries that they might know, students treat the Learning Center as an advanced modern library. Students do not see a need for a new name for libraries. In fact they continue to call it a library in their day to day interactions. As suggested by one interviewee, it might be necessary to tell the new students how the Learning Center differs from the traditional library in future. It could help to take advantage of the "Learning focus" that the term Learning Center implies. However the difference seems to be obvious to librarians and professional information people who know how libraries are organized and work.

Even though the interviewees managed to identify some differences (PC's, IT support, space etc.), it seems that the thoughts were provoked by the research, rather than born naturally.

Learning Center is a term determined by the focus of the institution. The notable structural differences that are seen as a result are simply a reaction to changes within the institution. Learning Centers are the new models of libraries tailored to meet the learning needs of modern researchers. They are aware of the internet as an immense information source, aware of quality digital resources and are looking for electronic devices such as notebooks, e-readers, cameras etc. to borrow besides the traditional printed material.

References

Barratt, C. C. & White, E. (2010). Case study for a large research institution library: The University of Georgia's Miller Learning Center. *Journal of Library Administration*, *50,* 1-10.

Finerty, T. (1997). Integrating learning and knowledge infrastructure. *Journal of Knowledge Management, 1*(2) 98 - 104. doi: http://dx.doi.org/10.1108/EUM0000000004584

Hughes, L., Krug, N., & Vye, S. (2011). The growth of an out-of-class learning community through autonomous socialization at a self-access center. *Studies in Self-Access Learning Journal, 2*(4), 281-291.

Jeapes, B. (1996). Sheffield's Learning Center: More than a library for the twenty-first century. *Electronic Library, 14*(5), 417-418.

Outreach Services for the Industry - An Initiative of PASTIC to Enter Knowledge Society

Nageen Ainuddin
Pakistan Scientific & Technological Information Center, (PASTIC), Pakistan. Email: nageen50@hotmail.com

Abstract: *Pakistan Scientific and Technological Information Center (PASTIC), is a borderless library responsible for information dissemination in all fields of science and technology, mainly catering to the needs of the R&D community of the country. However, the industrial sector has been underutilizing the services of PASTIC because the industrial community is not very literate having imported machines / technology which is only involved in mass production. As long as the machines are giving results they are not concerned with any R&D and hence not using any information. Therefore, this paper presents the initiative that has been taken by PASTIC information professionals to organize awareness campaigns and seminars for the industry about the importance of information, ways of finding and searching information, evaluating, interpreting and using information. Special sessions on Internet Searching Techniques are also held for the interested groups. Besides they are also being made aware of Intellectual Property Rights through forums and seminars. All this is done so that they realize that the company that possesses or has access to all such information and knowledge can locate and use information effectively and it will have a competitive advantage in national and international markets. The effort has resulted in signing of MOUs between PASTIC with the Chambers of Commerce and Industry and certain individual companies, thereby acting as agent of change for building knowledge society. The paper focuses on economic value of scientific information mainly for the industry and the innovative trend set by PASTIC in Pakistan as well as some developing countries.*

Keywords: *Information literacy, industry, information professional, change agent, knowledge society.*

Introduction

In today's knowledge society, information and knowledge are considered great power and their eeconomic value cannot be denied. They play a pivotal role in research & development. Information is equally important for creativity, innovation and industrial development. Effective use of information in all these sectors leads to socioeconomic development. The ultimate aim of a library/ information center is, therefore, to provide services to all segments of community to enable them to contribute in the overall economic development directly or indirectly. Unfortunately, the segment of people who do not use libraries/information services is far more than who use these services, particularly in the developing countries, therefore in the present knowledge society some libraries are trying to reach different sectors in different ways.

Pakistan Scientific and Technological Information Center

Pakistan Scientific and Technological Information Center, (PASTIC) is a national organization, under the Ministry of Science & Technology responsible for information dissemination in all fields of science and technology catering to the needs of the R&D community of the country. PASTIC acts as a borderless library, providing information services from its own collection as well from global information resources. PASTIC Services include Document Supply service, Literature Search Service, Science Reference Library Service, Technology Information Service, IT support service, Printing Service, etc. Regular users of PASTIC services are researchers, academicians, scientists, engineers, doctors, planners, etc. However, being one of those developing countries, where only 55% of population is illiterate, the information services of PASTIC were not being very well utilized. Therefore, PASTIC is making efforts to provide awareness to more sectors about importance of information literacy and information services available. These outreach and promotional activities helped increase the number of users in various sectors and various types of organizations.

The Figure 1 shows that industry users are also visible amongst the overall users from Universities, R&D organizations during the last year (2011-2012) due to outreach activity for the industry, whereas during the previous years the industry users only comprised 2% of the total users. Although 7% is still a small percentage but this is the beginning.

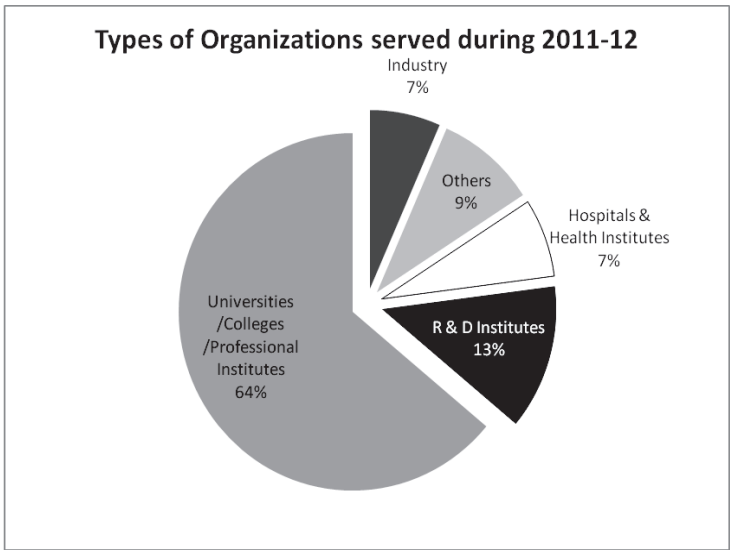


Figure 1. Types of organizations served during 2011-2012

All over the world, majority of private enterprises comprise of Small & medium-sized enterprises (SMEs) and in most developed countries they act as catalyst in economic growth. In order to carry out their innovative activities and play their effective role in national development, they require up-to date technical information and business information. This helps them in better decision-making and competition. Producer can now easily make decision on what to produce, how to produce and for whom to produce. Musser and Albitz (2001) describe organizational use of standards, patents, technical reports, product catalogues, and audiovisual materials business development. Industry in developing countries should realize and recognize the importance of information as a raw material for development, progress, and existence.

Obstacles in Developing Countries for Access to Information by Industry

Unfortunately, the industrial sector in Pakistan like many developing countries, do not realize the significance of information, whether technical or business. There are many reasons and obstacles for this such as lack of literacy in the industrial community, lack of awareness about importance of information, lack of knowledge about available information resources, lack of innovative and R&D activity in the industry, sometimes lack of accessibility to information, Poor Infrastructure, High cost of information, etc. Lack of awareness of the IP system and importance of patents in particular or the protection it can provide for their inventions, brands, and designs. Little inventions/innovative ventures, Lack of Research-Industry linkage, etc.

PASTIC Initiative for the Industry

Libraries and information centers are a valuable part of the knowledge society. In recent decades most libraries in both the developing and developed world have introduced innovative initiatives & services for diverse kind of users and their diverse information needs in addition to the traditional activities. The focus of the libraries however always remained the same, i.e. to act as a bridge between library and information users. The awareness and application of knowledge have been at the center of librarians' work (Davenport & Prusak, 2000).

PASTIC information professionals acting as agents of change, also realizing that technology information services are important for the industry for improving production and capacity development, initiated specialized information services focusing on marketing strategies and innovation, necessary for the survival of any growing industry. Thus a need was felt to improve education; training and innovation system of the innovators and the industrial sector through outreach activities through which they will be made to realize that availability of knowledge strengthens innovators capacity to produce new knowledge. Therefore, PASTIC felt that in order to promote research and innovation in the industry, an initiative needs to be taken by PASTIC to extend its services to the industry. Now PASTIC is in the process of expanding its Technology Information services focused towards the industry. As part of this activity PASTIC has been approaching various active chambers of commerce and industry in the country to organize awareness seminars for their members. The objective is to sensitize the representatives of the industry and trade sector about S&T information services of

PASTIC and how to use these services for value addition in their products; to create awareness about important topics such as IPR, Standards, WTO, etc.; to get back from the participants as to what are their information and other R&D needs so that services are designed accordingly.

The following measures have been undertaken by PASTIC.

Meetings, Awareness Campaigns and Seminars

PASTIC has been organizing meetings, awareness campaigns and seminars for the industry to be more innovative by using information, on the importance of information and its use in innovative activity. The objective is to publicize the services of PASTIC and interact with the industry, SMEs & Businesses, assess the information needs of the dynamic world of technology development and business operations for promotion and value addition of the industrial sector. They are apprised of the information services, sources and products available for them for better productivity, efficiency and innovative activity to be competitive in the world markets. The Chambers of Commerce and other R&D organizations are also invited in these meetings and campaigns.

Trainings / Workshops

Industry participants are invited to share their views on industry information needs. Trainings & Workshops are held with a number of key industry players with the specific brief to consider the industry's short- to medium-term research needs. Trainings have also been arranged on ways of finding and searching information, evaluating, interpreting and using information for research and innovative activity, Information and communication Technology (ICT). Efforts are being made to wipe out their shyness of computers, finding, locating and using information.

Trade Fairs and Exhibitions

In order to promote the local industry and indigenous technologies and to provide assistance to SMEs in identifying partners for joint ventures, PASTIC also organizes technology exhibitions in different technological sectors in collaboration with universities and the different Chambers of Commerce and Industry. This helps networking between R&D organizations and the industry and the entrepreneurs and the public becomes aware of the latest technological developments in the country.

Selective Dissemination of Information (SDI)

PASTIC provides anticipatory information services (selective dissemination of information) to the industry and the Chambers of Commerce & Industry as part of the solution. This is done through on- line email alerts and an e-bulletin entitled, “Technology Round-up” published every month.

Intellectual Property Rights

In the present knowledge economy, IP has a lot of significance in day-to-day business considerations. New products, brands and designs are common as a result of innovative activity throughout the world. . However, innovative capacity is not always fully exploited as many SMEs are not aware of the economic and societal benefits of IP system. To help SMEs fully utilize their IP assets PASTIC has launched a program for increasing awareness and use of IP system among SMEs and entrepreneurs for enhancing competitiveness and obtaining access to new markets. Workshops and seminars have been organized in connection with IP Awareness, IP concepts from a business perspective, IP management for business success, Use of patent and trademark data as a source of technological and commercial information, etc.

PASTIC also provides technological & commercial information in patent documents and databases to learn about recent technology breakthroughs and the innovative activities of competitors, identify niche markets, avoid possible infringement problems, and assess patentability of one’s own inventions. Patent Information Services also include providing guidance in filing and filling patent applications.

University-Industry Interaction

An initiative on building University-Industry Partnership (UIP) has also been taken so that the Industry gives R&D contract to some relevant university. UIP program aims at building effective coordination between R&D and industry for enhancing innovations, competitiveness and productivity of indigenous technologies. For this purpose PASTIC has organized Symposia and R&D Projects Exhibitions from universities relevant to industry in different sectors. This facilitates technology transfer from university/R&D organization to the industry. The Chambers of Commerce & Industry have also been involved in this activity.

Technology Information Service

PASTIC provides following services to the industry, entrepreneurs and Technology Universities.

- Information on new technologies
- Information on technology/business/investment opportunities
- Matching and pre-selection of prospective business partners
- Business meets exhibitions, workshops, and training programs
- Technology offers and technology requests

Library Needs, Issues & Challenges

PASTIC plans some other information services for the industry mentioned as below. However due to lack of relevant manpower and resources these are still pending.

- Reference, Referral & advisory services
- Current awareness services, translation services
- Database of local technologies

There is also a need for other libraries, like academic libraries to change their roles & functions from information providers into knowledge facilitators. In this knowledge society, the aim should be to convert information into knowledge and contribute to knowledge creation by developing and adopting innovative strategies and as important building blocks in industrial development. For this an adequate resources & communication infrastructure is required. Most Pakistani libraries and those in other developing countries are not well equipped to serve the diverse needs of the industry and business community.

Amongst issues and challenges we find there is lack of policy frameworks, reduced budgets, lack of local content and little indigenous knowledge is documented, lack of expertise, networking & resource sharing. Besides most libraries lack Business research and a change of mindset toward outreach to the business community. Apart from the libraries role it is observed that industry users do not recognize and trust libraries as a source of industrial or business information

Conclusion and Recommendations

Dissemination of scientific knowledge & utilization of research results is very important and it has helped in establishing an innovative and technologically informed culture in the west. However, developing countries like Pakistan lag behind the developed world in the generation & application of appropriate technologies which come through information & knowledge. As developing country information professionals in the new knowledge society, we have challenges as well as opportunities to act in a more efficient manner and to re-define our role to cater to a wider segment of society, particularly those who matter a lot in economic development and growth of the country. Since the productivity of and return on investments in science, technology, and innovation is lower in most developing countries, our focus of service should be the productivity sector, the industry & SMEs. We have to perform according to the requirements of this new society in which we must try to decrease inequalities between developed and developing countries, by endowing them not only with the capabilities and resources, but also the necessary conditions and infrastructures to make it possible. The advancement of information technology makes it possible today the access to a wider variety of information resources available worldwide, but libraries and information centers in developing countries continue to lag behind. In this situation they won't be able to provide a value-added information products and services to an ever growing and more demanding population.

However, the governments of countries where information infrastructure is not very strong, should also provide support to library & information services for sustainable economic growth They should develop national knowledge / information policies, which should recognize the role of libraries, improve the library infrastructure, etc. expand business and economic development information services by create a small business information center / corner, Strengthen the ICT infrastructure, standards, & supply of electricity, etc. Countries can learn from other countries' experiences about information services to the industry.

The efforts made by PASTIC in approaching the industry/SMEs has resulted in signing of MoUs between PASTIC with the Chambers of Commerce and Industry and certain individual companies, thereby acting as agent of change for building knowledge society. PASTIC has acted as a knowledge facilitator and an enabler for information usage that is necessary to facilitate technological innovation and hence has participated in building a society whose growth and development is based on continuous learning in which knowledge would be continuously generated, used and exchanged. However the industry needs to be educated much more and frequently too to make the change visible.

References

Davenport, T. H, & L. Prusak. (2000). *Working knowledge: How organizations manage what they know*. Harvard Business Press.

Musser, L.R., & Albitz, B. (2001). Video resources for the engineering curriculum. *Science and Technology Libraries, 20*(4), 29.

From Tension to Balance: Designing a New Library Building for Effat University

Grete Pasch
Effat University, Jeddah, Saudi Arabia. Email: gpasch@effatuniversity.edu.sa

Zaki Mallasi
Effat University, Jeddah, Saudi Arabia. Email: zmallasi@effatuniversity.edu.sa

Abstract: *Effat University is a private non-profit university for women founded in 1999 in Saudi Arabia. Maximum enrollment should reach 3,300 fulltime students within a few years. The Effat University Library holds 25,000 physical items, provides access to extensive digital content, and library staff members participate actively in campus-wide information literacy efforts. A new Cultural Center, housing the library and a new museum, is expected to open by fall of 2014. The design of the new Center was subject to the tension between the traditional idea of library as print book storage versus the ideal future world of the virtual, non-embodied digital library. The Center is to house and feature collections of lasting value in addition to learning resources that support active programs of study. The design team strove to find a balance between the desire for openness toward the community and accepted local social norms. This paper describes the process followed to design the new Center. It's not clear whether the library as a centralized entity will survive on campus, but the design team believes that this Center will serve the immediate needs of the institution and expand the impact of the library in non-traditional ways.*

Keywords: *New library design, academic libraries, Saudi Arabia, Effat University, Effat Cultural Center & Library.*

Introduction

Effat University was founded in 1999 by the late Queen Effat, who led the development of educational opportunities for women in the Kingdom of Saudi Arabia. Today, Effat University's three colleges (Humanities & Social Sciences, Business, and Engineering) offer thirteen programs, including computer engineering, architecture, entrepreneurship, psychology, and a master's degree in Islamic financial management that is unique in the Kingdom. Enrollment has grown steadily, from an initial group of 25 students to over 2,000 fulltime students registered for the fall 2012 term, and should reach the maximum of 3,300 students within a few years. As the first institution to offer engineering programs for women in Saudi Arabia, Effat University strives to prepare professionals "who retain their national identity while mastering the challenges of rapid technological development and globalization" (Jamal Al Lail, 2012) .

The Effat University Library grew steadily throughout the years and now holds 25,000 items, most of which were specifically acquired to support the programs of study. The Library also provides access to extensive digital content, including dozens of high-quality academic databases (e.g., *JSTOR, ACM Digital Library, IEEE Xplore, ABI Inform, PsycArticles, Gale Virtual Reference Library, UpToDate*) and over 160,000 academic ebooks. Most importantly, library staff members lead and participate actively in campus-wide information literacy efforts. Support for library programs is strong, as the University's core values are based on the belief that reading is the first step on the road to enlightenment (*Iqraa Core Values*, 2010); thus user services librarians promote reading and offer research support and a variety of workshops to faculty and students.

The Effat Cultural Center & Library

The library's 2012-2017 strategic plans seeks to further the university's goals, to fulfill its user service commitment, and to exceed the minimum requirements set by the Ministry of Higher Education (MOHE) bylaws and by the National Commission for Assessment and Academic Accreditation (NCAAA). MOHE regulates the size of the collections and seating areas; the number of seats, computers, and staff members; and the quality of the spaces and collections. For example, MOHE guidelines stipulate that the library building should provide at least one square meter of space for every full time student and one seat for every five students. In 2009, the library was housed in a 900 m^2 building, which was adequate but about to be outgrown

by fast student growth. In fact, the campus master plan foresaw the need for a new library building capable of serving the maximum of 3,300 students, and when a donor approached the University with an offer to sponsor the construction of a new library & museum building, the university was ready to proceed.

First, library staff reviewed documents describing trends in library users and library development (e.g., Toivonen & Laskujärvi 2005; OCLC, 2006; Gibbons & Foster, 2009), including:

- Collections: The development of e-resources, their impact on collection sizes and library technology, and the relevance of a teaching collection containing few unique or rare items
- Spaces: The need for a variety of spaces, ranging from loud group-study areas to small group training rooms, to absolutely silent individual reading spaces; and the desire expressed by students and staff to have lots of natural light, a pleasant environment, flexible furniture, support for technology (e.g., power plugs, WiFi), and perhaps a "green" building
- Services: The importance of accreditation and the emphasis placed by accrediting agencies on information literacy efforts

The building program was prepared by the librarians and reviewed with assistance from the design team, which included the librarian, architecture faculty members, the head of maintenance, the academic Deans, and the University President. In 2010 the University selected JCJ Architecture (CT, USA), a firm with extensive experience designing library buildings, to develop the overall floor plan layouts for the new "Effat Library and Cultural Museum" in a way that reflects the values, mission, and goals of the University. The JCJ team worked on site with the design team, students, and engineering contractors to refine the space requirements and to develop the library & museum layouts. A local engineering firm then developed detailed building plans, and construction started in late 2011. The Center is expected to be ready by 2014. It will house a museum and adjacent storage and conservation areas, a gallery area, library stacks in a silent reading area, a seminar room, a quiet research area, small group study rooms, prayer area, and a large reading and study area with a café and access to a palm garden.

The process for designing the new Center followed the usual steps and can be described as collaborative, as input was sought at all levels. However, along the path from initial idea to final layouts, the question in the back of everyone's mind was: what is the long-term purpose of libraries, and of this particular library? Three main sets of issues or sources of tension were identified:

- Print/Digital Library: the library as a place to store print books vs. the virtual, non-embodied digital library
- Inside/Outreach: onsite services vs. reaching out and working with users where they are
- Library/Museum: Academic library as support for programs of study vs. a library/museum featuring cultural collections of lasting value and of interest to a wider community.

Although libraries everywhere must grapple with these issues, there were local considerations that the design team had to consider to find a balanced consensus.

The Hybrid (Print/Digital) Library

The team recognized that the design of the new Center would be subject to the tension between the idea of a traditional library as a place to store print books and the promise of a fully digital library. It would take years and massive financial resources to grow the relatively small print collection to the size of collections amassed over decades and even centuries at older universities. Fortunately, journal databases and ebook sources are readily available, making it possible to "leapfrog the print collection era" (Tedd & Large, p.14.) In early 2010, librarians began working with faculty in evaluating program-specific databases and ebooks. Kindle readers were acquired and made available for loan with user-selected content, and Electronic Book Library (EBL) and DawsonEra subscriptions made it possible to acquire urgently needed books on the same day. Initially only a handful of faculty members responded, but interest in ebooks is steadily growing. Librarians identified the top three user concerns regarding all-digital collections:

- Not all course references can be found or used online easily
- eTextbooks are favored by only a small percentage of faculty members
- Student preferences are mixed: some demand print, others wish to use ebooks

In the short to medium term, the library will continue to acquire some content of lasting value in print format, but whenever available, users will be encouraged to try the eversion of any new titles they suggest for purchase.

In this context, how much shelving space should be made available in the new building? The minimum size of the print collection mandated by the Ministry of Higher Education (MOHE) is 10 titles per student. Given that the expected maximum number of full time students is around 3,300 enough shelving for at least 33,000 titles (i.e., about 40,000 volumes) should be provided. Recently, the NCAAA recommended that the collection should grow to about 50,000 volumes within five to ten years. Clearly, this still represents a small collection, but given the growth in digital publishing, the team agreed that providing shelving space for up to 60,000 volumes should be plenty for the long term. In fact, the physical collection will stop growing as usage goes digital. For this reason, the shelving area can be repurposed: it is enclosed by a glass wall, thus creating a completely silent area that will be used for reading or individual study (Figure 2.) Should the print book collection shrink in the future, shelves can easily be removed and the additional space used for seating or repurposed with glass partitions to create small-group study rooms. Fiction, new acquisitions and light reading will be placed near soft seating on the ground floor, with the rest of the collection located upstairs.

In terms of space for users, MOHE requires one square meter per student and one seat for every five students. Recognizing that this is a minimal requirement, the decision was made to provide closer to two square meters per student, with a total of 5,880 sqm for up to 800 seats. The library should be a place for students to come together, therefore a range of seating area "flavors" will be offered:

- loud group-study and casual reading area next to the café, on the ground floor (600 sqm)
- training or group meeting rooms also near the café (100 sqm)
- outside seating in the palm garden
- the staircase joining the ground and first floors is envisioned as an inviting, social meeting space, with steps wide enough for students to meet and perhaps linger and interact informally
- small group-study rooms and a quieter reading area (300 sqm) are located on the first (upper) floor
- shelves/silent room are also on the first floor (700 sqm)
- prayer room is next to the shelves/silent room upstairs.

In general, the ground floor is envisioned to be friendly toward noise, food, interaction, whereas the first floor should be quieter and more conducive to individual study. At the time of this writing, JCJ Architecture is expected to start designing interiors that are engaging and tech-savvy.

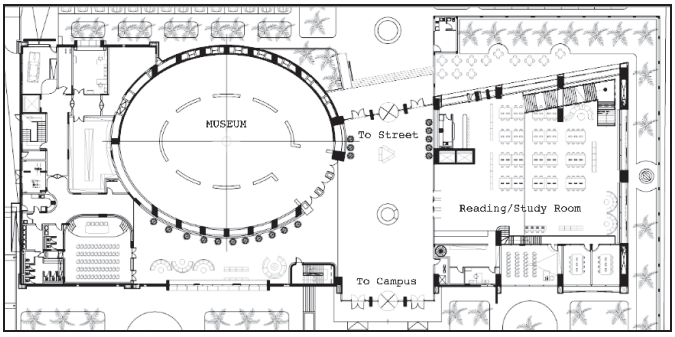


Figure 1. Effat Cultural Center & Library, ground floor

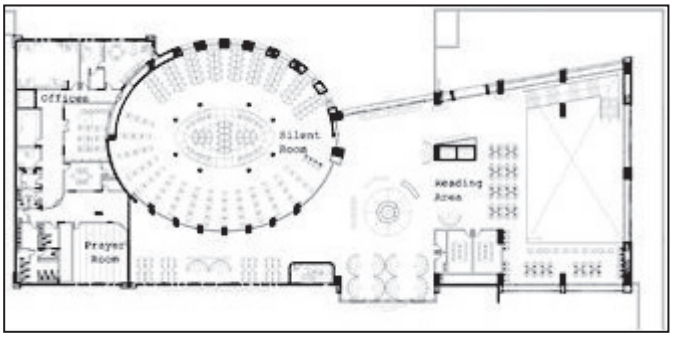


Figure 2. Effat Cultural Center & Library, first floor

Inside/Outreach and Information Literacy

Instead of waiting for students and faculty to come to the library, the library's services should be integrated into the university's life, sharing in its activities and objectives. Librarians routinely have taught students how to use the library's OPAC, how to find books on the shelves, and how to search a journal database. But the User Services Librarians ("USLs") are making an effort to move beyond the library walls by:

- Switching from a collection-centric view (i.e., how to use the local collections, how to find a specific book on the shelves) to an information-literacy view, proactively guiding students toward information literacy skills and working with the Provost and faculty members to integrate info-lit elements into the curricula, at all levels.
- Creating video tutorials that students can consult at any time to learn the basics of information searching on their own and providing online services (e.g., VPN for remote database use, email-based reference, online book renewals)
- Spearheading the introduction of teaching-by-dialogue workshops in collaboration with the Center of Excellence in Teaching and Learning and the Independent Learning Center.

As a result of these activities, USLs spend half of their time engaged in teaching activities, so much so that the University is committed to keeping the ratio of one USL for every 500 students. This means that besides a well-placed help desk (ground floor) and a reference desk (first floor), more spaces will be setup to provide one-on-one sessions for individual faculty members and hands-on training for groups of 4 to 20 students. Instead of building computer labs with fixed PC-like boxes and seating in rows, the idea is to move toward flexible spaces that allow workshop participants to use either the equipment (tablets?) provided by the library or their own devices to connect to the WiFi network. Of course, enough power plugs will be provided, as that was one of the main concerns expressed by students during focus group discussions. For larger groups, the auditorium provides space for up to 65 participants and is envisioned to be equipped with moveable furniture that can be rearranged easily from lecture-style setup to small discussion groups, as required. Still, it would be impossible to have sufficient training rooms and equipment in the library to serve the needs of all, and so it's important to note that USLs are working closely together with faculty members and will be conducting many sessions in classrooms and labs around campus, as well as in the future Student Services building adjacent to the library.

With most content going digital, one future scenario had USLs assigned to specific programs and thus, having offices located in the corresponding colleges. On the other hand, it might also be the case that they would consult with users mostly via remote devices, and thus could be located anywhere - even off campus. For the short and medium term, the expectation is that USLs will still be based in the library building, and thus, their offices and service desks will be in this building.

The Library/Museum in the Local Context

The current collections focus on supporting the programs of study. There are very few rare books or irreplaceable items in the collections. But in addition to the library, the new building will house a museum and a gallery. While the library already exists and fulfills a known function in support of the University's academic programs, the addition of a museum will position Effat University as a keeper of important cultural items and create the potential to engage with the Jeddah community in new ways:

- The conservation workshop will be staffed by expert curators, who will be able to share their knowledge of collection preservation and item repair with other Jeddah libraries and with the community at large.
- Library expertise will develop toward digitization of cultural items (books, works of art) in conjunction with faculty from the computer science and engineering programs.
- The gallery space located just outside the museum, will serve to display new creative works by students, faculty, and invited artists, whose efforts will be documented via digital portfolios & video interviews by library staff.

The museum, gallery area, and conference room will be open to the public, and all spaces and entrances had to be designed in a way that accommodates the social expectations for this women's campus while allowing for intellectual interaction. For example, if a museum function is scheduled at night or during the weekend, outside guests will enter from the main street entrance, while the campus entrance is secured. Also, the museum/gallery and conference hall areas can remain open while the library is closed.

In the longer term, when teaching collections are fully digital, the museum's content will still be unique and hopefully relevant for the university's teaching and community service purposes.

Final Considerations

Digitization, user preferences, outreach, and the addition of collections of lasting value were the main drivers in the design of the Effat Cultural Center & Library. Although it's not clear whether the library as a centralized entity will survive on the campus, the design team believes that this Center will serve the immediate needs of the institution and expand the reach of the library mission in non-traditional ways. The new emphasis on information literacy and the addition of a museum and gallery spaces re-focuses the mission of the library, from being the keeper of textbooks and other learning resources to becoming an active learning space where cultural heritage is honored and students are encouraged to learn how to find and use information critically, work together, and display their creative works.

References

Iqraa Core Values. (2010). Retrieved December 17, 2012 from http://effatuniversity.edu.sa/About/Pages/IQRAA_Core_Values.aspx

Gibbons, S. & Foster, N.F. (2009). *Studying students: The undergraduate research project at the University of Rochester*. Association of College & Research Libraries (ACRL). Retrieved December 17, 2012 from http://hdl.handle.net/1802/7520

Jamal Al Lail, H. (2012). *President's message*. Retrieved December 17, 2012 from http://effatuniversity.edu.sa/About/Pages/Home.aspx

OCLC. (2006). *Perceptions of college students.* Retrieved December 17, 2012 from http://www.oclc.org/reports/pdfs/studentperceptions_part5.pdf

Tedd, L. A. & Large. J.A. (2005). *Digital libraries: Principles and practice in a global environment*. München: K.G. Saur Verlag.

Toivonen, T. & Laskujärvi, M. (2008). *Changing physical library space - planning and design of new academic library.* Retrieved December 17, 2012 from http://www.eahil.net/conferences/helsinki_2008/www.terkko.helsinki.fi/bmf/EAHILpapers/Leena_Toivonen_paper.pdf

Designing Good Library Space to Promote Information Literacy

Klaus U. Werner
Freie Universität Berlin, Germany. Email: klaus.werner@fu-berlin.de

Abstract: *Changing user habits necessitate new environments for information-literacy learning. A redesign of spaces for information literacy also seems to be called for in the context of global change in the culture of learning. Many colleagues are busy dealing with the development of user-friendly design for e-learning tools, but to support information literacy we also need new equipments for the library as space. The novel aspect of creating high-quality, rewarding information-literacy communication in libraries is this: integrating training and instruction in the overall design. The challenge is to establish environments for the teaching library that are more than just user-friendly, but rather inspiring and encouraging spaces that promote information and media literacy, enhance our courses and add to the success of our training:*

- *modern, welcoming atmosphere and design of rooms for classes and workshops instead of old-fashioned classrooms*
- *refurbishing with modular desks and flexible chairs*
- *new tools like notebook and tablet instead of towers*
- *new spaces for consulting instead of information desks*
- *mobile devices instead of inflexible equipment.*

For training and instruction we need a motivating and stimulating setting suitable for all of our users: for children in school libraries, for students in their universities and for our users in public libraries. Now it is time for a profound chance - to change the design of future learning environments.

Keywords: *Information literacy, teaching library, library design.*

Changing User Habits

Changing user habits necessitates new environments for information-literacy learning, and that concerns not only the digital, but also our physical learning environment. In the context of global change in the culture of learning we should think about the design of library spaces for teaching information literacy. The new generation, which has been socialized to use various collaborative tools, multitasking, learning together in groups including digital devices, will not be satisfied with a passive role of listeners and receivers of information.

Library Space and Information Literacy

We as librarians practice more and more engaging and creative learning methods, but most of us do so in a physical environment, which is not appropriate. Many colleagues are busy dealing with the development of user-friendly design for e-learning tools, but to support information literacy we also need a new environment and equipment for the library as place. The challenge is to focus on a re-design of the environment for the teaching library that is more than just "user-friendly". These spaces should be inspiring and encouraging to promote information and media literacy. For training and instruction we need motivating and stimulating settings suitable for our users, for our young adults in school libraries, for our students in university libraries and for the users in public libraries as well - a modern, welcoming atmosphere and design of rooms for classes and workshops instead of old-fashioned classrooms. Students should enjoy learning especially in the library while they attend a tutorial in information literacy. We can develop new ways of learning and make students enjoy going to an educational institution like a library not only by providing new digital environments but by creating better physical spaces. Instruction of information literacy in particular requires not only new didactic concepts, but also demands new adequate environments to support these didactical aims.

What to Do?

Library space, where we teach information literacy, should definitely not look like a computerized training room as you may find it in a computer center. Spaces within the teaching library aimed at promoting information literacy should expand the students' learning environment, should be something quite different from classrooms or computer training centers. The design of these library spaces and the equipment should support individual learning strategies and collaborative learning as well. We are facing a wide range of

students' individual learning styles! Therefore, flexibility of furniture to create different settings is a main aspect. Which requirements have to be met in the interior design of this kind of teaching rooms? Tables and chairs, computers on each table and a projector hung from the ceiling - that is not enough. Attention must be given to lightning, acoustical treatment of doors and ceilings, control of temperature and humidity. Is there any natural light in the room? Is it possible to look outside through windows? What about enough fresh air? These spaces need more fresh air than the rest of the library: the projector, the ICT-devices, printer - all of these cause heat and stale air. What about colours and attractive features to create a special atmosphere?

What Our Users Like?

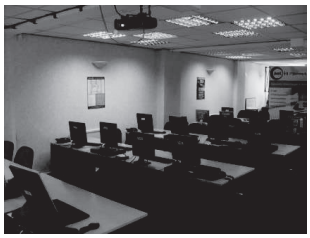
- Flexible furniture: Mobility becomes a priority: we should use height-adjustable chairs with a rolling base and desks with rolling casters. Heavy chairs and tables are not appropriate. The worst option would be permanent, fixed furniture. This means: a Starbucks feeling with its mixture of a variety of styles and designs of chairs.
- Collaborative learning: teaching and learning in groups will support collaborative learning.
- Social aspects of the training room: to support communication
- Integration of physical and digital services is expected by our young people who are digital natives.
- Lounge atmosphere: The balance of teaching, learning and relaxing characterizes the favorite style of learning and a 'feel-good' learning atmosphere for the young generation.

What Our Users Need?

What our users need are flexible rooms with flexible furniture to create different settings: Flexibility and mobility of physical and digital settings, library as a learning center, for collaborative learning the users need open space for group study and for other forms of collaborative learning, new environments for an 'architecture of teaching and learning' in the library.

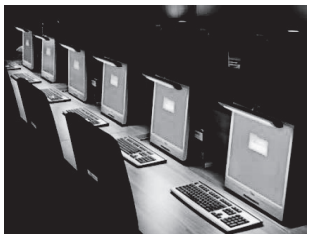
Some Examples

To highlight some difficulties and to point out some aspects of improvement: Let me show you some examples from 'bad' to 'better' to 'pretty good' and finally to my 'vision'.



You can see what the furniture says and what this arrangement expresses: don't move, don't discuss, and don't feel comfortable! - This a traditional IT training room, that you may find in many universities with big computers, tables in rows, no windows that allow you to have a look outside, dominant computers and displays, very limited space for the learners. - The students will get tired very quickly!

A little bit better: some different arrangements: semi-circle, but all users must sit facing the wall, a mixture of tables combined to clusters and chairs without desks. - But look at this ugly wiring.



This equipment looks really good, but it is not an ideal solution. Individual light is required for a user's desk in reading rooms but not for a desk in a room for teaching and learning. The handling of this kind of retractable computer displays is tricky: Because of the very sensitive technique of vertically adjustable displays, it is advisable to keep these rooms closed while no classes are being taught. But that is a real disadvantage because it should be possible to use these spaces outside teaching hours as well.


The same disadvantage pertains to the training room of my library at the Free University of Berlin where I work. And it is rather boring that everything is in white and black. Also, the furniture is totally inflexible because of these big, heavy desks. The retractable Displays seem to be an option for flexible use: You can use the computers, or you can have just plain desks. However, the disadvantages I mentioned overbalance the advantages. - We will change this room completely very soon.

What I like in this setting is the coffee machine! Have a break; take some coffee during some long, intensive training - why not?

This young man is attending a class and has brought two smartphones with him…: I am sure, that he has his own notebook in his backpack as well, but the library provides these fixed computers. But let me say this: I bet this guy would prefer using his own notebook.

Much better: there is space for notebooks, a glass of water is allowed, there is natural light from outside, a look outside is possible.

A transparent room because of the glass walls and glass door: This allows users passing by to see what is going on inside. And that can motivate them to join a tutorial or a class. And don't worry: Nowadays projectors are so bright, dimming the light in the room is no longer necessary. So, you can use a transparent space like this even if you are using a projector.


This is a photograph from a school library in Hamburg, Germany. The tables look nice, but take into account, that libraries have to keep the furniture longer than the specific IT-equipment. If you choose very sophisticated furniture with special features for IT-hardware, that might cause some problems when you get the next generation of computers. But the curved tables support communication, create a nice atmosphere. - And it is "cool" design, no doubt about that.

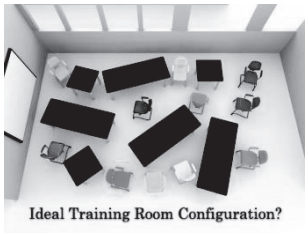
High-quality projector and audio-visual devices are a matter of technical competence for the library. Notebooks and flexible chairs - quite good! - The rectangular arrangement like in a meeting supports communication.

This setting is much more flexible with tables arranged in clusters. Round tables instead of rectangular tables support learning in groups. Daylight and a kitchenette make the stay very comfortable.

Large touch screens on the wall, movable tables on casters, comfortable chairs on wheels covered with breathable fabric, a transparent glass wall to look in and out, a flexible use for training and teaching as well as for general use like learning in groups.

A very good setting: vertically adjustable touch screens on the walls, flexible tables which are half oval and half rectangular: This special shape makes it possible to place the table right in front of a touch screen, or you can combine two tables to form a big oval. - A very flexible space, indeed.

Conclusion: The Main Aspects of a Nearly Perfect Training Room?



Ideal Training Room Configuration?

The main aspects are: flexible space to teach, to learn whether alone or in a group, to communicate, to relax; a 'cool' design; an inspiring and motivating atmosphere; use of mobile devices instead of inflexible computer equipment, that is to say, notebooks and tablets instead of towers; try to bring as much natural light as possible into the room, but avoid glare; try to realize a balance of teaching, learning and relaxing - and please don't forget the library's vision: What is important is that the design of physical spaces is linked to the institution's vision for teaching and learning, and that this is articulated in as many single details as possible.

References

Altenhöner, R. (2011). Learning and working environments - what students expect. Paper presented *Satellite Conference of the World Library and Information Congress: 77th IFLA General Conference and Assembly / Library Building and Equipment Section*, Atlanta, USA.

Braun, S. (2010). Die UB Kassel als Lernraum der Zukunft: Alles unter einem Dach: differenzierte Arbeitsplätze, Lernorganisation, Erholung und Entspannung. Berlin: Institut für Bibliotheks - und Informationswissenschaft. http://edoc.hu-berlin.de/series/berliner-handreichungen/2010-268/PDF/268.pdf

Götz, M. (2010). Lernzentren - ein Überblick und eine kurze Einführung. In: Bibliothek - Forschung und Praxis 34/2 (pp. 145-147).

Gwyer, R., Stubbings, R. & Walton, G. (Eds.) (2012). *The road to information literacy: Librarians as facilitators of learning*. Berlin: de Gruyter.

Raff, J. (2009). Designinnovationen im Lernalltag. In: Hentsch, Norbert et al. (Eds.), *Innovation durch Design: Technisches Design in Forschung, Lehre und Praxis* (pp. 283-289). Dresden: TUDpress.

Scheibel, M. (2008). *Architektur des Wissens. Bildungsräume im Informationszeitalter*. München: Kopaed.

Scholle, U. (2012). Vom Schulungsraum zum Lernraum. Plädoyer für eine didaktisch orientierte Gestaltung eines Schulungraums am Beispiel der Universitätsbibliothek Duisburg-Essen. In: *Zeitschrift für Hoschschulentwicklung Jg. 7, Nr. 1 (Januar 2012)* (p. 114-128). http://www.zfhe.at/index.php/zfhe/article/view/376

Werner, K. U. (2012). Räumliche und gestalterische Anforderungen an Bibliotheken als Lehr- und Lernort zur Förderung von Informationskompetenz. In: Sühl-Strohmenger, W. & Straub, M. (Eds.), *Handbuch Informationskompetenz* (p. 451-466). Berlin: de Gruyter.

Designing the Green Library - Environmental Sustainability in Library Spaces, Library Management, and Library Service

Petra Hauke
Humboldt-Universität zu Berlin, Berlin School for Library and Information Science, Germany. Email: petra.hauke@bock-net.de

Stefan Schubert
Berlin School for Library and Information Science, Germany. Email: stfnschubert@gmx.net

Maria Staufenbiel
Berlin School for Library and Information Science, Germany. Email: mariastaufenbiel@yahoo.de

Abstract: *The paper describes an international book project, managed by LIS students from the Berlin School of Library and Information Science. The book project is on "Environmental Sustainability in Libraries", covering all aspects of reducing the "ecological footprint" in library buildings, in the libraries' workaday life as well as the social role and responsibility of libraries as leaders in environmental sustainability. The book will also contain examples of sustainability in libraries through short presentations of interesting specific cases both from Germany and from other countries all over the world. Themes to be discussed are "Energy-saving concepts for library buildings", "Environmental management in libraries", "Green information technologies", "Resource saving copy services", "Environmentally friendly materials in the library", "The green office - Resource saving library management", "Sustainability and Corporate Identity", "Certifications and Awards", "International activities, committees, organizations, and awards". The book project will both foster LIS students' publishing skills as well as promoting the idea of the "Green Library" in all its varies aspects.*

Keywords: *Green library, sustainability in libraries, resource saving library management, library buildings, publishing.*

Introduction

The Berlin School of Library and Information Science (BLIS) - official member of the iSchools Caucus - offers to undergraduate LIS students once a year a seminar titled: "Turning an idea into a book". Students learn the basic aspects of publishing from finding the right topic, acquisition of articles written by experts in their field, professional layout through set-up and structure of a publication including financing and possible forms of a publication, including different citation types. They are responsible for making decisions to insure that the publication will be recognized by experts and by the book trade. Currently the seminar is undertaking an international book project on "Sustainability in Libraries" (working title). It will be completed by a group of bachelor and master students of Library and Information Science during the winter term October 2012 through February 2013 within a project course.

Purpose

The project itself is both introducing LIS students in the field of publishing exploring all aspects the field, such as finding authors, reviewing papers, financing, public relations etc., and encouraging them to think about designing the "Green Library". Because not only energy efficiency but green thinking in general have dramatically become important criteria, this international publicationshould encourage librarians not only in Germany, but all over the world, in thinking "green". Thinking "green" does not mean just sustainable buildings with green roofs but also sustainable library management. The Berlin students' book project will demonstrate what has already been done and encourage librarians to follow the "green way". Giving also some interesting theoretical directions of what is a "green library" and what makes a library sustainable, the publication can be seen as a kind of 'guideline' for those who want their library to function sustainably. Therefore the audience includes librarians in public libraries as well as in company libraries, university libraries, teachers and students of Library and Information Science but also everybody interested in ecological solutions such as architects, library users, library governing bodies, certification agencies, and professional library associations. The volume should be an open access publication in print and digital online formats. The

book project is accepted and confirmed through the IFLA Professional Committee to be published in the IFLA publication series at Saur/de Gruyter, Munich.

Method

Original contributions written by invited experts in their field from different countries worldwide will show a wide range of aspects of reducing the "ecological footprint" in the libraries' workaday life as well as the social role and responsibility of libraries as leaders in environmental sustainability. The students' role is to review the articles and to make them ready to print, to add a comprehensive bibliography, to think about possible ways to achieve Open Access and to make the articles available on the web.

Procedures

Beside a global overview and more general articles the examples in the book will come not only from Germany but from Great Britain, Denmark, Finland, Switzerland, the United States, Singapore, Taiwan, and Thailand. Following main issues will be discussed: Energy-saving concepts for library buildings, Environmental management in libraries, Green information technologies, Resource saving copy services, environmentally friendly materials in the library, "The green office" - Resource saving library management, Sustainability and Corporate Identity, Secondhand library buildings (Hauke & Werner 2012), Certifications and Awards and Activities, committees, and organizations.

The articles will cover themes like "The impact of standardization on responsible library design - rereading ISO/TR 11219:2012 from a sustainability perspective", "Sustainable thinking: passageway to better buildings, budgets and beyond", "Sustainable hides in libraries - the state of ecological sustainability in libraries", "The second hand library building: sustainable thinking through recycling old buildings into new libraries". Specific best practices will be shown through articles like "Free University Philological Library - A Green Library" (Berlin, Germany), "New energy-saving lightening at Hamburg Central Library" (Germany), "Eco-Library: the reading space for life and environment" (Thailand), "Environmental management within a medium-sized library supplier company" (Germany), "Green workstations for library users through Thin-Client-Technology" (Germany), "My Tree House: World's 1st green library for kids in Singapore", "Showing the green way: advocating green values and image in the Villala Library, Helsinki, Finland" etc.

While preparing the book project, students learn the basic aspects of publishing from finding the right topic, acquisition of articles written by experts in their field, professional layout through set-up and structure of a publication including financing and possible forms of a publication: self-published, print, print-on-demand, e-book, open access (green / golden road). They are responsible for making decisions to insure that the publication will be recognized by library building and other experts as well as by librarians and by the book trade. Furthermore they learn to promote their project through writing and publishing articles on all aspect of that issue and presenting their projects on national and international library conferences like the German Library Conference, BOBCATSSS and IFLA.

Over the last years these book projects were successfully published not only as a printed version but also online with open access on the Humboldt University's own Edoc server. Again it was a challenge to find a publishing model which should convince an established publishing company to accept an open access version beside the printed version (Hauke 2012; Hauke & Rumler 2010).[1] As this will be the first comprehensive international publication on environmental sustainability issues in libraries the project receives support from the IFLA Library Buildings and Equipment Section[2] as well as from the IFLA Professional Committee (PC) who accepted the project to be published in the IFLA publication series.

To serve the international audience's expectations for the first time the project integrates two languages in the publication: Articles will be written either in German or in English, all articles will have German and English abstracts.

[1] http://www.ibi.hu-berlin.de/studium/studprojekte/buchidee (last rev. 2012/09/23).

[2] http://www.ifla.org/en/library-buildings-and-equipment (last rev. 2012/09/23).

Findings

Environmental sustainability as an important issue for libraries is becoming an increasing theme world-wide (McBane Mulford & Himmel 2010; Miller 2010, Antonelli 2012). Although "libraries are quite 'green' in that the basic activities consist of information retrieval, circulating the collections, as well as offering an open, public space,"[1] as leaders within the society they can do and offer more to develop greener ways of acting within the libraries as well as within the society. Examples of libraries "going green" are few but steadily growing. It is not necessary to build new 'green' libraries with green roofs following the "Chicago Standard"[2], which is by no means an impressive standard in terms of impact. The idea of just 'recycling' an old building, to reanimate a ruin for library use is sustainable thinking: "The process of rededication of a building with a former different usage into a library is quite obviously a matter of recycling. The transforming of an existing building with a prior non-library function into a library brings the challenge and the opportunity for sustainable thinking in library planning."[3] As it was demonstrated in Hauke and Werner (2012) that the idea of a "Second hand library" does not mean just a compromise but a new perspective also regarding the transformed atmosphere, e.g. from an old church, a railway station, a baroque school building, an ancient barn.

There is a wide range of "Going Green" examples in libraries, e.g. "Bookmobiles are Going Green"[4] through a fuel efficient diesel engine which runs on very low sulfur diesel fuel. "Not only the emission is clean, the vehicle is green because it will last longer. The life of diesel engines is generally twice as long as that of gasoline engines."[5] The Calgary Public Library developed and implemented an ambitious environmental "Eco-Action Plan" including an eco-themed children's summer reading program, the elimination of plastic bags at the checkout while introducing a stylish, reusable library bag, a "Green Before Green Was Cool" media event, over 50 environmental programs in locations across the city each year, collaboration with green organizations to promote environmental awareness.[6]

Beside libraries' activities in environmental issues there is an increasing number of Web 2.0 tools, especially 'green' web blogs. More and more green library blogs are "popping up". "Why wouldn't patrons find a green-related library blog exciting to read if it includes local and global news items, reviews green resources in the library collection, spotlights a 'green patron of the week', highlights ways the library is going green (and possibly saving its taxpayers money!), promotes local green events and resources, and offers tips and ideas on going green?"[7]

There are lots of possibilities to be creative and to demonstrate sustainable awareness through avoiding any type of 'waste'. "Among the most visible elements of the library world affected by this trend towards 'green' products those ubiquitos promotional products - or swag, to use the colloquial shorthand - that appear in conference participant packages, on trade show floors, and at reference desks."[8]

The idea of taking over responsibility for the environment through libraries and librarians as leaders in environmental sustainability becomes more and more important. A broad spectrum of ecological consensus is found within international librarianship, e.g. ENSULIB, the IFLA Special Interest Group on Environmental Sustainabilities in Libraries[9], and the IFLA Library Buildings and Equipment Section who offered a session on "Sustainability issues in the design of libraries: the importance of creating environmentally responsible library facilities and spaces in the 21st Century" at the World Library and Information Congress 2011 in San Juan, Puerto Rico with contributions from China, Germany, US, and Australia.

[1] Sahavirta, 2012, p. 239.

[2] Bever, 2012.

[3] Hauke & Werner, 2012, p. 60.

[4] Totten 2012.

[5] Ibid., p. 133.

[6] Griebel, 2012. p. 115.

[7] Williams, 2012, p. 159.

[8] Hudson, 2012, p.194.

[9] http://www.ifla.org/en/environmental-sustainability-and-libraries (last rev. 2012/09/23).

Conclusion

LIS students from the Berlin School of Library and Information Science are going to publish an international publication on "Environmental Sustainability in Libraries", covering all aspects of "The Green Library", through inviting experts from all over the world to contribute articles on sustainability issues. As a special aspect of sustainability the book should be published in printed and electronic format with open access. These LIS students as upcoming new LIS professionals are taking over the challenge to try to exert influence on the 'green' thinking of and for libraries and librarians and to help distributing the 'green' thinking not only within the libraries world but within in the society.

References

Antonelli, M., & McCullough, M. (eds.) (2012). *Greening libraries*. Los Angeles, CA: Library Juice Press.

Bever, G. (2012). Chicago standard operating procedure. In: Antonelli, M., & McCullough, M. (eds.) *Greening Libraries*. Los Angeles, CA: Library Juice Press, (pp. 7-15).

Griebel, R. (2012). Greening a library, greening a community: The Calgary Public Library's eco-action plan. In: Antonelli, M., & McCullough, M. (eds.). *Greening Libraries*. Los Angeles, CA: Library Juice Press, (pp. 113-117).

Hauke, P. (2012). E-motion in hybrid publications: E-publications and their printed counterparts in the focus of publishers, library catalogues, search engines and users. In Wolf-Fritz Riekert & Ingeborg Simon (eds.) *Information in e-Motion. Proceedings BOBCATSSS 2012 - 20th International Conference on Information Science. Amsterdam, 23-25 January 2012.* Bad Honnef, Germany: Bock+Herchen Verlag. http://tinyurl.com/cg4dzvb (last rev. 2012/09/23).

Hauke, P., & Rumler, J. (2010). *Open access and the changing role of libraries*. Paper presented at the IFLA Information Technology Section Satellite Meeting in Gothenburg, Sweden 2010. http://www.kb.se/aktuellt/utbildningar/2010/Open-Access-and-the-Changing-Role-of-Libraries/ (last rev. 2012/09/23).

Hauke, P., & Werner, K. U. (2012). The Secondhand library building - Sustainable thinking through recycling old buildings into new libraries. In: *IFLA journal* (2012) No. 1, pp. 60-67.

Hudson, D.: Beyond Swag. Reflections on libraries, pencils, and the limits of "green" consumerism. In: Antonelli, M., & McCullough, M. (eds.) *Greening Libraries*. Los Angeles, CA: Library Juice Press, (pp. 193-207).

McBane Mulford, S., & Himmel, N.A. (2010). *How green is my library*?. Santa Barbara, CA: Libraries Unlimited. http://site.ebrary.com/lib/alltitles/docDetail.action?docID=10377242 (last rev. 2012/09/23).

Miller, K. (2010). *Public libraries going green*. Chicago: American Library Association.

Sahavirta, H. (2012). Showing the green way: Advocating green values and image in a Finnish public library. In: *IFLA journal* (2012) No. 3, (pp. 239-242).

Totten, K. (2012). Bookmobiles are going green. In: Antonelli, M., & McCullough, M. (eds.) *Greening Libraries*. Los Angeles, CA: Library Juice Press, (pp. 133-137).

Williams, B. F. (2012). Green librarians blogging. In: Antonelli, M., & McCullough, M. (eds.) *Greening Libraries*. Los Angeles, CA: Library Juice Press, (pp. 159-166).

Social Navigation in Library and Information Science

Serdinç Kaya
Hacettepe University Department of Information Management. Turkey. Email: srdnckaya@gmail.com

Abstract: *In this paper, I examined social navigation and creativity in library and information science as a physical or virtual space; who use it; how does it work; what are the facilities of it; and most importantly, how do users interact with each other in these spaces. As well as, how users can show their creativity in the physical library. In this paper, focused on user-to-user mediation and social navigation by trace leavers and trace finders in a participatory library setting and creativity, particularly in the physical and virtual/digital library.*

Keywords: *Social traces, social effects, social navigation, library spaces.*

Introduction

The term "navigation" conjures images of maps, compasses, and guidebooks. These may be tools we use to get around from time to time, but are they how we usually find our way? Imagine walking down a street in your hometown, trying to decide what to do. You notice a crowd outside your favourite café. Knowing that the café often has live music, you can guess that a special event must be happening tonight. You might decide that you're in the mood for a lively evening and join the line, or you might decide that you prefer a quiet night and look for a different café. Or imagine you're in a library, looking for a book about interface design. One of the books on the shelf is much more worn and dog-eared than the other, suggesting that lots of people have read it. You may decide it's a better place to start learning than the pristine books beside it on the shelf. In both cases, you didn't rely on maps or guides; instead, you used information from other people to help make your decision. This is a different sort of "finding your way." We call it "social navigation." (Dieberger, 2001). And I also start my paper with this beautiful example and explanation.

It is not easy to make a decision, so people need others' opinion to help them. We can see this situation around us; in a supermarket, in shopping malls, in book shops, in restaurants etc. In the libraries, users also do this, exactly. They follow others' traces, foot prints; especially if they don't have any idea about book which they searched; they need some recommends, reviews, and so on.

"When interacting with information spaces like the libraries, users may leave marks or traces of their activities that might guide other users to find and use information resources. For example; dog-eared pages, hand-written notes in books, left behind books on a table" (Björneborn, 2011), recommends and rating shift on the back of the book, smiling faces… First, I would like to talk about navigation to understand the terms and social influence.

Navigation - Social Navigation

It is estimated that the size of the WWW in June 2008 was 174 million websites. Over the last couple of years its growth has been largely driven by the increasing number of new forms of media on the web including blogs, social networks, video and photo sites, audio such as podcasts and much more (Papagelis, Papagelis & Zaroliagis, 2008). Information search involves a series of interactions between the searcher and any available information source, including other people (Papagelis, Papagelis & Zaroliagis, 2008).

In the new information society people are flooded with information, and to navigate these huge amounts of information is a daunting task. For some people navigating in information spaces is a relatively straightforward task. However for various reasons the same task to other people may be substantially more difficult. It is important to find ways of aiding people that have problems navigating within information spaces (Svensson, 1998).

Social navigation describes the process where a number of people that share interests and searching goals decide to coordinate their efforts. As a design approach social navigation tries to raise awareness that social activities should be part of our information processing environments. Systems based on social navigation concepts typically make people more aware of each other and thus contribute to a more social experience of the information space. At the same time, awareness of others and their actions make a space feel more alive and turn it into something we might perceive as place (Papagelis, Papagelis & Zaroliagis, 2008).

In this study, navigation mean is to direct the people according to other peoples' behaviors and traces. We can see this situation, especially, on the web platforms and information spaces. Now, I am going to mention now social navigation in "information spaces".

Information Spaces

Navigation of Information Space requires us to explore the concept of an information space which in turn requires us to look at something that is not an information space. We conceptualize the situation as follows. The activity space is the space of 'real world' activities. The activity space is the space of physical action and experiences. In order to undertake activities in the activity space, people need access information. At one level of description, all our multifarious interactions with the discovery, exchange, organization and manipulation of information. Information spaces are not the province of computers. They are central to our everyday experience and go from something as simple as a sign for a coffee machine, say, to a public information kiosk to a conversation with another person (David, 2001).

I will primarily address issues relating to social traces. In order to understand social navigation a short summary of two related concepts: library as physical space and digital space, navigation and direction.

In order to understand social navigation, the literature review was done to determine the scientific studies about my topic up till now; some interviews have been done with colleagues and some videos have been watched to get new ideas.

"Social navigation is a term coined by Dourish and Chalmers (1994) that refers to situations in which a user's navigation through an information space is guided and structured by the activities of others within that space."(Nova & Ortelli, 2004). Nova and Ortelli continue with this metaphor to describe social navigation in detail:

"One the simplest example is the footprints in the desert or in the snow: when one is lost somewhere, he or she tends to find footprints in order to finds his or her way. The point is to find traces from other's activities to help you performing the task you want to (e.g. escaping from this awful desert). Humans as social beings prefer to rely on others than finding their own to solve their problem. When lost in a city, it is indeed easier and faster to ask someone navigations than finding your way on a map. This is direct social navigation (there is a contact between the actors), whereas following others' footprints is indirect social navigation (the contact is anonymous). Of course, social navigation can be used in more complex context, like for instance selecting "something" worth reading. As Dieberger (1999) pointed out, the number of cars parked in front of a restaurant, as well as the waiting line before a theatre are indicators of the places popularity."

I tried to explain with Nova and Ortelli"s texts above what social navigation is, and now, we want to talk about how important it is, how it is used in the physical library, what it"s properties are etc.

"Social navigation lets users help each other and generally serve as a navigational aid. A typical example of social navigation is following in someone else"s trails; i.e., following direct or indirect advice from someone else." (Tancheva & Koennecke, 2007).

Where Social Navigation Term comes from and what is Its History?

Some of the signposts in the history of social navigation as a design approach and conceptual framework include the PERSONA collaborative project between Swedish Institute of Computer Science and Napier University, Edinburgh, the 1998 workshop in Sweden on Personal and Social Navigation of Information Spaces and its published proceedings, a panel on social navigation at the CHI conference in 1999, organized by Alan Wexelblat, other workshop on social navigation held in conjunction with the CHI 2000 conference, the joint Delos-NSF workshop on personalization and recommender systems in digital libraries held at Dublin City University in 2001, and publication of a second expanded edition of Social Navigation of Information Space in 2003 (Tancheva & Koennecke, 2007).

There are some kinds of social navigation:

- Direct (mutual communications and two-way between advice provider and users) social navigation
- Indirect (non-mutual communications and just one way navigation) social navigation.

Like Björneborn said, we can see all social navigation physical and digital space well-examined on below:

- **Direct**, synchronous, user-to-user mediation and social navigation in physical spaces
  - intended; e.g. face to face conversation, [talking with the agents etc.]
  - unintended; e.g. conversation overheard by others
- **Indirect,** asynchronous, user-to-user mediation and social navigation in physical spaces
  - intended; e.g. messages on notice boards, physical tags, [rating and comments schedule on the back of the books]
  - unintended; e.g. dog eared pages, left-behind books, [underlined texts in the books]

There are many other writings that we can draw upon for our ideas of how best to conceive of HCI in different circumstances. For example, by introducing the importance of social navigation - asking people the way, following crowds, getting recommendations from the others, being aware of the actions of others, etc. - we find many different influences. There are many other views on architecture, space, maps and navigation that have not been mentioned here. The broad applicability of Semiotics in helping to frame ideas and its focus on how people interpret signs provides a useful basis on which to go forward (David, 2001).

As a result of this research, other users' opinions are very helpful for the trace finders. In order to decide, trace finders follow all kind of information which they are looking for, in a café, in a restaurant, in a bookshop so on.

References

Björneborn, L. (2011). Behavioural traces and indirect user-to-user mediation in the participatory library. *Information Science and Social Media ISSOME 2011*, 151-166.

David B. (2001). The new HCI? Navigation of information space. *Knowl.-Based Syst, 14*(8), 425-430.

Dieberger, A. & et. al. (2001). *Social navigation research agenda.* New York, USA.

Nova, N. & Ortelli, R. (2004). *Rss4you: Web-Based syndication enhanced with social navigation*. 1st Workshop on Friend of a Friend, Social Networking and the Semantic Web. 1-2 September 2004, Galway, Ireland.

Papagelis, A., Papagelis, M., & Zaroliagis, C. (2008). *Enabling social navigation on the web*. Retrieved December 16, 2012 from http://queens.db.toronto.edu/~papaggel/docs/papers/all/WI08-socialNavigation.pdf

Svensson, M. (1998). *Social navigation*. Retrieved December 12, 2012 from http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.102.930

Tancheva, K. & Koennecke, J. (2007). *Social navigation, recommender systems, and libraries*. Retrieved December 10, 2012 from http://www.ala.org/acrl/sites/ala.org.acrl/files/content/conferences/confsandpreconfs/national/baltimore/papers/198.pdf

Let's Refresh Your Home Library!

Brigitta Jávorka
IT Librarian Department, University of Pécs, Pécs, Hungary. Email: javorka.brigitta@gmail.com

Abstract: *This summer a new Hungarian website, Rukkola was launched that helps you renew your home library for almost free. If you have a book that you don't need, you can upload and show it to the users of Rukkola, and if somebody marks that they would like to get your book, it's your task to send it to them. In exchange for your sending the book, you get points that provide you with the opportunity of claiming new books from other users. So, with this website you can renew your home library by paying only the postage of the books you sent. This new emerging service - as a new source of book procurement - means a new challenge for libraries.*

A questionnaire was elaborated and made available on Rukkola website in the middle of September. 659 questionnaires were filled in and returned. We tried to find answers to the following questions:

- *Who are the users of this website?*
- *What kind of books do they usually claim, and besides Rukkola, what other sources they use to get books?*
- *Have their book-buying and library-visiting habits changed since they are using Rukkola?*

Data show that such sites are real competitors of libraries. Most users claimed that they don't visit libraries as often as before since they registered to Rukkola. They also spend less on books.

I also compared the answers of these questions with the data of the users of the biggest Hungarian social website for booklovers, named Moly.hu.

Keywords: *Rukkola.hu, Moly.hu, web2.0, bookchanging, Hungary.*

Introduction

The theme of my research is the Rukkola.hu book-changing website, which launched summer of 2012 and since that revolutionized the life of the Hungarian booklovers.

The new, innovative idea is a private initiative, but now so many publishers are helping to the editors of the site. The Rukkola.hu is a very rapidly growing website. The statistics show that 81 days after the site-start it has already 11,100 users; it is a big when we watch that how small country is Hungary. In that time 81,000 books were available on the site and 54,000 had a new owner. In the initial period the editors did not receive money for their work, but with 110 days after the site-start the advertising spaces appeared. So the website with thousands users became a profitable company.

It is not the first project, in which people can swap their books. There was a big event in Budapest so-called Book-changing market. You could offer there your unnecessary books and bring from there news. The value of the books was not important only the numbers. The remaining books were given to a small school library.

But the movements on the internet are most important for us. There is a big international website what named BookCrossing.com[1]. In this system all of the books have a special ID number, what you must glue in the book, because with this number will the next owner identify it. After that you must give a book to somebody you know or with who you get to know in the site, or you can leave a book somewhere in the city, on a bench, in a cinema, in a coffee shop, where somebody can find that. Everybody who meet with book and own it for a little time mark it on the site, so everybody can follow the adventures of the book. Daniele Dalli and Matteo Corciolani made a research about the communities of the site and they got that result BookCrossing is able to transform the market and the habits of the users, at least in a moderate, smooth and non-radical way (Dalli & Corciolani, 2008).

We have a Hungarian version of the "BookCrossing game" what named "Veszíts el egy könyvet"[2] (Lose a book!). The essential of this site is the same like the BookCrossing, but mother site of this is a Könyvtár.hu,

[1] Website: http://www.bookcrossing.com/

[2] Website: http://veszitsel.konyvtar.hu/

which is operated by the Hungarian National Széchényi Library, so in this project libraries undertook a significant role. But it is a small thing when we watch next to the Rukkola.hu, because the Hungarian people left only a fragment of those books what they want to change in the new site. So this new emerging service - as a new source of book procurement - means a new challenge for libraries and for its catalogue (Spiteri, 2012).

The Operation of the Rukkola.hu

How the Rukkola.hu works? If you have a book you do not need, you can upload and show it to the other users of Rukkola.hu, and if somebody marks that they would like to get your book, it is your task to send it to them. So with this website you can renew your home library by paying only the postage of the packages you sent. We must make it clear we are speaking about paper books, not about e-books. So the exchanging happened in a virtual space but not with electronic books. There are some rules concerning which books can you put on the site: It must be intact, complete and original, so the users can not submit homemade copies.

In exchange for your sent book, you get points that provide you with the opportunity of claiming new books from other users. In the site is a category to the most popular, emphasized book, which more than 25 people want to claim. If you put on the site a book like this you get more point. You can see the point system of the site in the 1st table.

Table 1. The point system of the Rukkola.hu

Activity	Points
Claiming one book	5 points
Putting one book on the site	1 point
Giving one book to somebody	4 points
Putting popular book on the site	2 points
Giving one popular book to somebody	8 points

It is very difficult to classify the Rukkola.hu because it is neither a classical website nor it is not a typical Web 2.0 site either. We cannot leave a comment, upload files or record any data. But the administrators only ensure the framework of the site, it does not function without that the users mark what they want to have or give (O'Reily, 2005). The Rukkola.hu has a "brother website" called Moly.hu, which is a typical Web 2.0 site and the most popular Hungarian social website for booklovers. These two sites are connected and the data of the books come from the Moly.hu, so we can add content about the books (comments, ratings, tags) in that page. The other question is that: is the Rukkola.hu a social website? Maybe yes and maybe not. We cannot follow activities of other users and leave a comment, so in the site we cannot discuss with each other, even so there is a big community behind a site, and therefore Rukkola.hu is often referred to as a social website. It is because the editors are using the biggest social websites (Facebook and Twitter) in a very professional way. The personal relationships between the users form mostly here and in e-mails, because they coordinate the hanging of the books in that way.

Problem Statement

We made a research among the users of the site. A questionnaire was elaborated and made available on the Facebook page of Rukkola.hu between 15th and 21st September. 659 questionnaires were filled in and returned. We tried to find answers to the following questions:

- Who are the users of this website?
- What kind of books do they usually claim, and besides Rukkola.hu, what other sources they use to get books?
- Have their book-buying and library-visiting habits changed since they are using Rukkola.hu?

We also compared the answers of these questions with the data of the users of the Moly.hu (Audunson and Tóth 2012).

Demographic Variables

The users of the Rukkola.hu website are mostly women (86%). The data is the same about the Moly.hu users too. In that website the female respondents are in a majority with 83.4%. 290 replier of the Rukkola.hu users

are between 21 and 30 years and the average age is 28 years. The youngest respondent is 12, while the oldest is 71 years old. The average age among the users of the Moly.hu is 27.4 years, and there the youngest respondent was 12 years old and the oldest is 71 years old too. The most of the Rukkola.hu users (35%) are living in the capital or in its surroundings; it is the same in the case of the Moly.hu users too, because 40% of them are living there. The repliers of both sites are highly educated.

Most of the Rukkola.hu users (66%) are using the Moly.hu too. So we can state that there is a stable layer, which loves books and reading, but gets with it and use the internet for book connection activities.

The Habits of the Users

The respondents have big home libraries, but they do not often read old books from there, because the Rukkola.hu website changed their selecting habits. 46% of the Rukkola.hu users said that they have more than 500 books at home, but we had a question to them: "Since you are a member of Rukkola.hu, from where do you get your books?" They had to mark in a five-point scale how often they choose a book what they want to read from the mentioned sources, where the 1st point meant "never" and the 5th meant "always". The average of the answers can be seen in the 2nd table. In 2010 the Moly.hu users got this question too. The data show that to them almost all of the alternatives were more important than to the Rukkola.hu users. The exception is the downloading from the internet, but it can be because of the intensify of e-book culture. Those people who are using the Rukkola.hu select their readings usually from those books what they claimed from the site.

Table 2. Captions for figures should be below the figure

	Moly.hu users (2010)	**Rukkola.hu users (2012)**
I select it from my own library	4.05	3.71
I borrow from a library	3.43	2.71
I borrow from a friend/family member	2.94	2.82
I buy it in a bookstore or second-hand bookshop	3.94	3.08
I buy it on the internet	3.44	2.64
I download it from the internet	2.12	2.37
I read what I claimed from Rukkola.hu	-	4.12

The Rukkola.hu users buy and borrow fewer books than the members of the Moly.hu, and they answered that they also spend less money on books than before and aside from the Rukkola.hu website they do not use the internet to obtain readings. Most of the respondents usually do not usually download e-books and do not buy books in web stores. 55% answered they pay less while 19% do not pay money at all for books since they use this website. So the rate of the people whose book-buying habits changed is very high.

Data show that such sites are real competitors of libraries. 58% of the Rukkola.hu users are members of at least one library. It is not an outstanding value but presumably higher than among the Hungarian average. Only 31% of the respondents answered that they visit library less often than before. Even though the most users, 442 of the 659 claimed that they are visiting libraries as often as before since they registered to the Rukkola.hu website. On the contrary 173 of them are not members of any single library, so when they selected the answer "as often as before" they thought that "not previously and not now".

The users of the Rukkola.hu seem very single-minded. From the books of the site mainly they try to claim what they have wanted to read for a long time. It is the most important point to the 79% of the respondents. If you claim a book and after reading you do not want to keep it you can put it back to the site. I asked the users about that how often they put back books: most of them (55%) never put back that what he or she claimed previously. So the users claimed usually only what they really want and need to have. It can be caused by that most of the users do not or only sometimes find a new and unknown literature through Rukkola.hu. As you can see in the 1st figure my results are very similar to the Moly.hu. While that website is an important information source to the users, the Rukkola.hu does not have this function.

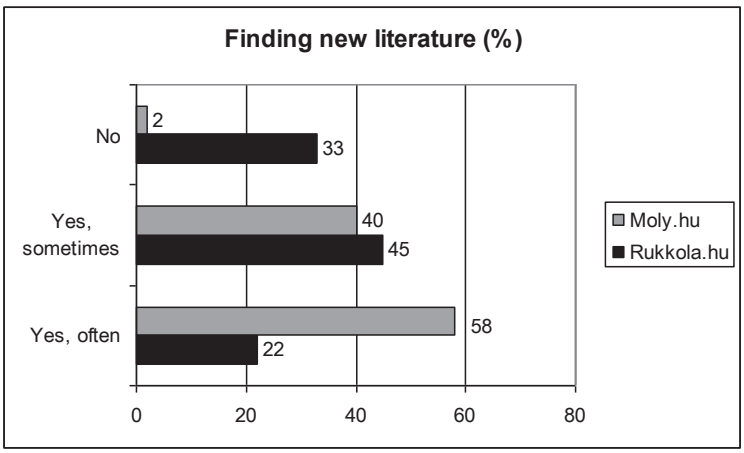


Figure 1. How often do people find new literature on the Rukkola.hu and the Moly.hu

Other Possibilities of the Site

The members of the Rukkola.hu usually claim contemporary and classis novels, but on the site are many school books too. I made a small overview with one booklist from the Deák Ferenc High School (Pécs) and must to ascertain that a student from the 1st, 2nd or 3rd class do not need to buy school books because they can claim everything from the Rukkola.hu, and the students of the 4th class can save significant amount of money by using this site. I did not find only the language course books because most of them are listed as emphasized book. Learning languages is a very important thing to the Hungarian book lover layer, but it is very expensive.

The site gives a big chance also to writers who published their first book or are not famous in the book market. Good example is György Horváth who propagates his book titled Estvér in the site and until now he put 161 copies of that to the site. Most of the Rukkola.hu users know his name and his book now, so we can say that it can be used for marketing purposes.

Conclusion

The users of the Rukkola.hu are very similar to the members of the Moly.hu, and most of them are registered to both sites. The book-changing website has a strong effect on the book-buying and library-visiting habits, the users buying and borrowing fewer books than before. But I conducted the research in the time when the site was very young. To a have a clear picture I must repeat it. In the future the impacts can become stronger or weaker. The Rukkola.hu possibly will be more important in the life of the Hungarian book-lovers, or after the magic of the novelty will have been disappeared and the unnecessary books ran out nobody will use the site. All depends on the ingenuity of the editors.

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References

Audunson, R. & Tóth, M. (2012). Websites for booklovers as meeting places. *Library Hi Tech*, *30*(4), 655-672.

Dalli, D. & Corciolani, M. (2008). Collective forms of resistance: The transformative power of moderate communities: Evidence from the BookCrossing case. *International Journal of Market Research*, *50*(6), 757-775.

Jávorka, B. (2012). Olvasómozgalmak a Moly.hu könyves közösségi oldalon. *Tudományos és Műszaki Tájékoztatás*.

O'Reilly, T. (2005). *What is web 2.0*. Retrieved from http://oreilly.com/web2/archive/what-is-web-20.html

Spiteri, L.F. (2012). Social discovery tools: Extending the principle of user convenience. *Journal of Documentation, 68*(2), 206-217.

Electronic Library Resources for Children: Functionality and Content

Margarita Dankova
University of Latvia, Department of Library and Information Studies, Riga, Latvia. Email: Dankova.Margarita@gmail.com

Abstract: *Following the rapid development of information technologies, libraries gain new opportunities to provide innovative services through electronic resources. Each user group has its own needs regarding the services and functionality of the resources. This research is based in Latvia and examines the needs of Latvian primary school children regarding electronic library resources and their functionality and content. In order to achieve the goal of the study, a foreign literature review was completed followed by focus group interviews with children, questionnaires of their parents, and a content analysis of the participating child's drawings.*

The results of this study show that nowadays children use the Internet in similar ways as adults. This fact is an explanation for why it is necessary to facilitate information accessibility through electronic resources for children. However, it is important to notice the difference between child and adults needs in order to create user-friendly library electronic resources for children. Thus, the findings of this research can be useful and important for children's libraries that want to develop electronic resource services for children.

Keywords: *Electronic resources for children; library websites for children; primary school children; children user-group.*

Introduction

Nowadays children in primary school make-up a huge group of both Internet and library users, therefore by having appropriate technological solutions and using the electronic library resources (digital libraries, electronic catalogues, library websites, etc.) it is possible not only to attract children into libraries, but also provide them high quality library services. Considering the fact that Latvia has a lack of electronic library resources for children, it is essential to examine the needs and expectations of children as users of electronic library resources in Latvia in order to contribute their development.

This paper presents the analysis of a wide range of research on library electronic resources in Latvia, child needs, and the development of library electronic resources for children. The hypothesis of the study stated that child needs and expectations concerning electronic library resources correspond with the following electronic resources development principles as:

- Usage of web 2.0. features;
- Integration of various electronic library resources into single child web portal;
- Ability to create and personalize individual profiles in the electronic resource.

Literature Review

Library Electronic Resources for Children in Latvia

Exploring the Latvian situation concerning the development of the electronic resources for children it was found that only a small number of libraries are using the opportunity to provide children high-quality library service using Internet and electronic resources. According to the research "Latvian public libraries and the Internet : technologies, service and influence, 2011" only 15% of 596 surveyed Latvian public libraries and 21% of 19 children libraries have their own websites (V/A "Kultūras informācijas sistēmas", 2011). Besides, the surveyed libraries, that are not having a website, are not even planning to create it in future.

Furthermore, the existing electronic library resources for children are not at an advanced level, because they are formed in the same way as the resources for adults and do not take into consideration the needs and expectations of children (Grundmane, 2008). According to the research "The reflection of offered electronic services for primary school pupils in the Internet" library websites do not fulfill their functions (they do not stimulate children to visit libraries or to read in general) and are too formal and boring (Leišavniece, 2006). It was also stated, that Latvian librarians have a lot of ideas concerning the

development of library websites, however they don't have enough financing, technical capabilities, and time for making improvements (Leišavniece, 2006).

The Characteristics of Primary School Children

The important needs of primary school aged children are the development of skills and knowledge, communication and the need to be loved (Grundmane, 2008). However learning activities, games and communication has particular importance in children's lives, that's why the quality and variety of children's leisure could have a crucial role in the child development (Grundmane, 2008). That means electronic library resource should encourage learning processes, communication, as well as provide educational games.

Also, it is important to remember that child's perception is emotional - firstly they perceive objects, which lead them to an emotional response, for example, games and bright or animated objects (Grundmane, 2008). However, one should remember that electronic library resource should use audio-visual tools in order to encourage reading and not to distract users from it.

As child's perception is emotional, one should also remember that it can be a problem for a logical perception of electronic resource's structure, functions and content. That means electronic resource should be simple and clear, however the main functions should lead children to en emotional response rather than be logically structured.

Development of Library Electronic Resources for Children

When developing electronic library resource for children it is necessary to remember that their needs, abilities, requests and expectations differ from adults. Children usually give importance to animation and visualization and choose books by cover's size and color (Dankova, 2011). Thus, visualization and animation can be successfully used in developing the instruction procedures and manuals for children. Several studies have proved that text instructions for children are less effective than audio-visual tools (Chiasson, & Gutwin, 2005). Children also note that instead of being guided through websites with text instructions they would like to see familiar book characters or other prominent media figures who could guide them (Grundmane, 2008).

When choosing a book to read, children may take into account the recommendations of teachers, librarian, friends and family (Dankova, 2011), that's why the electronic library resource should contain not only the book's description, but also a librarian's and other children's comments about a book and rating opportunities. Other criteria by which children may choose a book is their mood - they can ask a librarian for "happy" or "sad" book (Druin, 2003). In the electronic resource this need can be supported by adding appropriate keywords to the book.

Electronic resources for children should promote the social interactions that occur between children, because it has an important role in children's lives (Dankova, 2011). Several studies have shown that children tend to cooperate, when completing a task and also when working with library website (Chiasson, & Gutwin, 2005; Spink, Danby, Mallan, & Butler, 2010). It can be supported with adding a forum, commenting, chatting and other communication options to the electronic resource.

It was found that children would like to see website's content as entertaining, funny and colorful, as well as regularly updated and with personalization functions (Coomes, & Liew, 2007). Latvian researches also have shown that children want to be able to create a personal account, to change the color of website, to participate in competitions, to add their own documents (for example, drawings or essays), to ask a question to the librarian, to read and listen to the books, to see photo galleries, to get an information about library events and also children would like to get some help with their homework on the library website (Grundmane, 2008).

In addition, parents also consider the necessity of developing a single web portal for children, which would contain different electronic resources for children (Dankova, 2011).

Research

The research about Latvian children's needs and expectations concerning the electronic library resources is based on previous studies and their analysis. Two methods of data collection were used: first, a semi-structured focus group interview as a main data collection method, and second, questionnaires and the content analysis of drawings from children gained through the focus group interviews.

Two focus group interviews were conducted to evaluate the opinion of children about electronic library resources they have used and in order to understand the main principles in developing the functions and content of electronic library resources for children. In addition, the questionnaires were used to examine the opinion of children's parents.

Participants

Two focus group interviews were conducted each in one school in Riga. The first focus group discussion was conducted in the school with Latvian as a learning language and the participants were 7 primary school pupils. The second focus group discussion was conducted in the school with Russian as a learning language and the participants were 9 primary school pupils. Schools with different learning languages were chosen in order to compare the results between Latvian and Russian children. Overall, 16 children participated in the interviews.

Procedure

During the interviews' preparation stage the question blocks were developed and the permissions of children's parents for conducting the interviews were gained. Also, in collaboration with schools' teachers one group of children was set in each school. The planned duration of an interview was 40 minutes. After the introducing children to interview's purpose, they were asked to answer a few simple questions about their reading and Internet surfing habits in order to induce them to talk. Then more complicated questions were discussed and children were asked to describe their needs and expectations concerning electronic library resources. Finally, children were asked to draw, how the electronic library resource they would like to use should look like.

Questionnaires

The questionnaires were used in order to find out the opinion of interviewed children's parents about electronic library resources for children. As the opinion of parents has only supplementary value in examining the children's needs questionnaires were used as an additional data collection method. Overall, 16 questionnaires were distributed and only 13 of them were returned to the researcher.

The questionnaires consisted of six questions divided in three blocks and were elaborated in Latvian and Russian languages. The first block contained information about the study, researcher, instruction and the confirmation that the data will be used only in aggregate form. The second block included simple questions about respondent's child's reading and Internet surfing habits. The third block consisted of questions that helped to identify what electronic library resource's features parents deem necessary.

Results: Interviews

The first interview: All the participating children from this group were active library patrons and Internet users. They mentioned social networks, gaming, reading Wikipedia and working as reasons for using the Internet. Children clarified that they are using social networks for a communication with friends, e-mailing and gaming, as well as they enjoy reading and writing comments and picture rating. The majority of children would also like to change the website's appearance.

The following concerns relate to the library website. It was found that for children that use the library there is not a website for them as users. Children have not demanded a library website. Just one respondent noticed that a library website for children can only be used to check if a book is available in library. Others answered that it is more convenient for them to go to the library and ask about a book there. However it should be noted that the children from this group were using a school library so other reasons underlining a children's website are connected with that point. Other reasons against personalizing a child's library website were the fears that it would be too difficult for children to navigate and understand.

While describing an ideal library website, children mentioned it should contain a list of books in alphabetical order, a list of most popular books, a list of the newest books, and educational games, such as puzzles. In addition, some children would like to see book covers and to read other users' comments about a book. Also, children said they are too lazy to leave a comment, however they would like to use a possibility to rate the book, for example, with stars.

All the children reacted positively and enthusiastically when talking about creating a personal account in library website and saving selected books in a virtual book shelf. However children perceived negatively an idea about changing the appearance of the library website. They added that if the website looks beautiful, such a function is not required, but in this case it should be bright and colorful. In addition, children would like to see questionnaires and tests related to books and information about events and competitions in a library website.

Children from this group were not using the Internet for studies however they would like to have some help in doing their homework or projects, if library website would provide such an opportunity.

The second interview: The children from this group were users not only of the school library, but also of some public libraries in Riga and Jurmala. These participants were active users of the Internet, also. As a reason of using the Internet children mentioned studies, reading books, watching movies and videos, talking with friends, gaming and information searching. Children pointed they are using different social networks, mainly for chatting, searching for new friends, gaming, watching pictures and videos and video calls. In addition, they mentioned that they enjoy to rate and comment a content of website, as well as to read existing comments. However they noted that they would like to avoid of reading negative comments and comments, which contain opprobrious language.

None of the libraries that were used by children had its own website. However while talking about what makes an ideal library website children mentioned it should contain: the names and photos of students who donated books to the library; an opportunity to leave a review about a book (in comments or forum); a search engine, which would help to find a book in a library; and features that would allow downloadable books to their computers. Children pointed that it would be best if they are allowed to leave comments on a website regarding desired books that would then be already available for pickup when coming to the library. Many children described OPAC's functions. Among other ideas was picture browsing and audiobooks.

This group was very enthusiastic about the opportunity to leave a comment about a book and other objects on the website. They pointed that they wouldn't be too lazy for that, and also they would like to read other comments. The same reaction was about the opportunity to rate a book and other objects, for example, photos from library events.

As children from this group were using library for studies, they said it would be very important for them to have some educational material and also educational games on library website. Also, they would like to have an opportunity to change the appearance of website and to make their own "skins". They mentioned that library website should look "beautiful" and provide a language changing option. In addition, they described browsing principles when talking about searching books. Children mentioned that they would like also to see the book cover for identifying the publisher. Also, they would like to read a short fragment (not annotation) from chosen book, in order to understand, what it is about, and to see a list of the newest books in a library.

Results: Drawings

Children drawings consisted of recently discussed electronic library resources features and were colored in bright colors. Many of children pictured the website for their school library as it was the only library they have used before. During the interviews a lot of different features were mentioned and they could not fit in one picture. Thus, one can assume that children drew only features they considered as the most important.

The most popular of pictured categories were: "Comments", "Range of books", "Account", "Games", "New books", "Book shelf", "Book TOP", "Friends", "Tests", and "About the library". However, it has to be noticed, that many categories (like "Book shelf" or "Friends") can be developed only as a part of a personal account and could not exist without this function. Also, many categories were pictured ambiguously and in a lot of different ways. For example, the category "About the library" could be pictured as "Contacts" or "Library address".

Rarely depicted categories were: "FAQ", "Books that I don't like", "Events", "Questionnaires", "Competitions", "Feedback", "Audiobooks", "Drawings", "Video", "Puzzles", "Forum", "Photo", "Recommended books", "Videochat", "Jokes", "Skins" and also "Sweets" and "Love".

In addition, some other features as: personal account design, switching languages, a search engine, opportunity to view book covers and to read a fragment from book, opportunity to read a book online, book rating, book ordering and book delivery were pictured. Overall, a lot of different features were pictured in children drawings, but it is important to remember, that children do not have needed knowledge and skills to develop a high-quality concept of electronic library resource. However their drawings can be used for a design development as well as for new ideas and understanding of children's needs and expectations.

Results: Questionnaires

Answering the first questions all the respondents have noted that their children are 4th grade students, which are visiting library often or sometimes. After that, respondents were asked whether their children's library has its own web page. 10 respondents has answered that it doesn't have, however they would like it to be. Other respondents couldn't answer this question.

Also, respondents were asked whether they would like to see developed the children web site, which combines digital library, electronic catalog (OPAC) and other useful resources for children. 10 respondents answered positively, others found the question too difficult to answer.

Next, respondents were asked to choose, which functions they see necessary in electronic library resource for children. The most popular answers were: "Commenting on the web site's resources" and "Communication with librarian". One respondent has chosen answer "Another option" and commented that such a web site needs to contain OPAC and online booking facilities.

Finally, respondents were asked to give some comments or recommendations regarding electronic library resources for children. The majority of respondents didn't use this option, however, other respondents have mentioned that such a resource should be as simple as possible, well transparent, it should provide an information about the range of books, book covers, annotations as well as possibility to save founded and selected books in personal account and see, if they are available in the library. Respondents noted that electronic library resource shouldn't contain advertising or other banners, which could distract users from the reading.

Conclusions

Having analyzed the study results it is possible to conclude that children are interested in web 2.0 features usage with electronic library resources. Children perceived functions such a commenting, rating, chatting, and others with enthusiasm, and furthermore, a "comments" category was the most popular within children drawings. Also, the parents of the children see the web 2.0 features as necessary in electronic library resource.

Many of the children were describing OPAC's functions during the interviews. In addition, they want to see a wide-range of books to read books in electronic format and to get more quickly information about the library and it's events in the electronic library resources. Children that were using the library for doing homework and other projects mentioned they would like to have some useful functions for studying, functionality they can get in a valuable electronic resource. Also, children's parents noted the necessity of merging different electronic library resources (digital library, OPAC, resources for studies etc.) in a single website for children.

Another function, which was perceived positively, was the creation of a personal account in the electronic library resource. It was the most popular category pictured in the children's drawings. Note that several other categories, which were mentioned by children and their parents (for example, "Book shelf") shows the existence of an authorization function in the electronic resource. That means one can assume that the creation and personalization of a personal account in a resource is the most demanded function.

Thus, it can be concluded that the results of the study support the hypothesis and it can be considered as completely proven.

References

Chiasson, S. & Gutwin, C. (2005). *Design principles for children's technology*. Department of Computer Science, University of Saskatchewan. Retrieved December 3, 2012 from http://hci.usask.ca/publications/2005/HCI_TR_2005_02_Design.pdf

Coomes, C. & Liew, C. L. (2007). Stakeholder involvement in the development and maintenance of web sites for children. *Online Information Review*, *31*(2), 199-217.

Dankova, M. (2011). OPAC model for children: The user-friendly catalogue. In: Lovász, K., B., Czövek, Z., Murányi, P. (ed.). *Finding New Ways*. Sopron: University of West Hungary Press. (pp. 474-484).

Druin, A. (2003). *What children can teach us: Developing digital libraries for children with children*? Maryland: Human-Computer Interaction Lab. Retrieved December 3, 2012 from http://cgis.cs.umd.edu/localphp/hcil/tech-reports-search.php?number=2003-39

Grundmane, G. (2008). *Bērniem un jaunatnei lietotājdraudzīgu elektronisko informācijas resursu pieejamība Latvijas publisko bibliotēku tīmekļa vietnēs: Maģistra darbs*. Rīga, Latvijas Universitātes Informācijas un bibliotēku nodaļa.

Leišavniece, L. (2006). *Jaunāko klašu skolēniem (1.-4. klasei) piedāvāto bibliotēku pakalpojumu atspoguļojums Interneta resursos: bakalaura darbs*. Rīga, Latvijas Universitātes Informācijas un bibliotēku nodaļa.

Spink, A., Danby, S., Mallan. K., & Butler, C. (2010). Exploring young children's web searching and technoliteracy. *Journal of Documentation*, *66*(2), 191-206.

V/A "Kultūras informācijas sistēmas" pasūtīts pētījums. (2011). *Latvijas publiskās bibliotēkas un internets: Tehnoloģijas*. Pakalpojumi un ietekme: Bibliotēku aptaujas dati.

Usage of Social Networks: Mobilizing of Information Centers trough Social Networks

Sefa Mustafa DHYI
Hacettepe University, Department of Information Management, Ankara, Turkey. Email: sefa23@gmail.com

Abstract: *The rise of the Social Networks was started with application of the Web 2.0. Then, all the literature was changed. Now, time is downing for Mobile Digital Era. Information Centers should change its approaches in servicing the information. Applications? Usage statistics? New Era? Mobile Librarianship? Can mobile applications gather users' feedback or recommendations? Or can they give a chance to share their own information? All such questions will be answered within this text. The purpose of the this paper is to explain how to create new servicing space for Information Centers, using all available situations and technology, analyses statistics and give suggestions.*

Keywords: *Social networks, information centers, mobile applications, digital age.*

Introduction

The rise of the Social Networks has been accelerated with the Web 2.0 and has become a part of our lives. Also Library 2.0 was started with Web 2.0 which influenced in the libraries for taking a place in the virtual life. Nowadays, social networks are situated at the summit and via the social networks; to take part in cyber life has become easier. In these days we have to keep pace with the digital age and now is the time the Mobile (Digital) Era. When the information centers are moving their services to the social networks tool; they should also review their preparations for moving mobile applications.

The purpose of this paper is to analyze the awareness of the social networks? Why the Information centers should be on the social networks? How the current situation and what is are the usage rates? We can obtain statistics after that we can search answers of these questions: How is the evaluation of the obtained statistics? How the results of evaluation can affect the Information centers and what is the result?

Then we can get findings. By these findings we can look for our questions' answers; such as, how is the mobile social networks' usage and why they should move to mobile librarianship? What is the advantages / disadvantages? What are the gains of that moving? In brief we will look for answers to questions as described above. When looking for answers, we will use and analyze social network usage statistics, mobile device usage statistics, the use of the Internet and mobile Internet.

In this paper, statistics are gathered from social networks & their statistics, social networks' usage reports and Internet usage reports about Turkey and World. Statistics, reports and data collected by surveys from social networks and their users will be analyzed. This paper is concerned with Turkey examples.

Social Networks and Usage Information

What is the Social Networks?

Social networks are "*Web-based social networking occurs through a variety of websites that allow users to share content, interact and develop communities around similar interests*." (Das, Karkee & Majumder, 2009).

In other words it is;

> *An online community of people with a common interest who use a Web site or other technologies to communicate with each other and share information, resources, etc.* (Dictionary, 2012).

Another source, social networks are defined like that,

> *A dedicated website or other application which enables users to communicate with each other by posting information, comments, messages, images, etc.* (Oxford, 2012).

In brief social networks give us cyber socializing area. By this web based area we can do everything what we want such as photo & video sharing, instant commenting and replying, event creating, making polls, web conferencing etc.

Usage of Social Networks

Users of Internet are growing day by day. Internet users (latest data) population is 2,405,518,376 billion and World total population is 7,017,846,922 billion. Users increased 566.4 % in the last twelve years (Internet World Stats, 2012).

Social networks became part of our lives and according to a recent study almost 70% - 95% of the world's population who is using the internet is also using social networks and some people are even addicted to them (Nielsen, 2012; Go Gulf, 2012a).

Social networking is widely popular. On the every part of world, social networks users are increasing like a wave. The World top 5 social networking sites are Facebook, Twitter, Google+, LinkedIn and Pinterest (Go Gulf, 2012b).

Facebook: The most interested social networking service (site). It has over one billion users. More than 600 million users are using Facebook on their mobile device (Facebook, 2012a). Facebook users must register themselves before using the site. After that they can create a personal profile, add other users as friends, send and answer messages, they can have automatic notifications when they update their profile. Also, users can join common-interest user groups, organized by workplace, school or college, or other characteristics, and categorize their friends into lists (Wikipedia, 2012a; Facebook, 2012b).

Twitter: Second most popular online social networking service. microblogging service. Twitter enables users to send and read Tweets that is text based messages. Each Tweet has 140 characters long. Twitter has over than 500 million users (Wikipedia, 2012e; Twitter, 2012).

Google+: Google Plus is a social networking service and has 500 million users. You can add you friends to circles, share videos, photos and more (Wikipedia, 2012b; Google+, 2012).

LinkedIn: LinkedIn is professional networking website and has over than 187 million users (Wikipedia, 2012c; LinkedIn, 2012).

Pinterest: Pinterest is a pin board style social photo sharing website. You can pin your photos to board and decorate it and more. Pinterest has over than 11.7 million users (Wikipedia, 2012d; Pinterest, 2012).

In Turkey's case, 29% of Turkey's population is using the social networking. Even, day to day population of social networks is growing. For example; Turkey is 7th country on the Facebook and 11th on the Twitter. Istanbul's ranking is 12th on Twitter and 3rd is on the Facebook. Even Turkey has 2 more cities in the top 50, Ankara is 18th and Izmir is 35th (SocialBakers, 2012; TNSGlobal, 2012; Alexa, 2012a).

Pinterest has 108th rank in Turkey and Pinterest's global rank is 38th. LinkedIn has 25th rank in Turkey and LinkedIn's global rank is 13rd (Alexa, 2012b; SocialBakers, 2012).

Turkey has over 31 million social networks users and over than 40% of population Internet users (Turkish Statistical Institute, 2012; BTK, 2012).

Mobile Libraries (M-Libraries)

First mobile libraries were truck libraries. They were providing their services via trucks. But the definition of mobile libraries is changed with rapidly growing technology.

Mobile libraries are applications that provide delivery of library services to users through mobile networks in accordance with the general characteristics of mobile technologies (Odabaş, 2009).

Mobile Libraries as known as M-Libraries are library applications which are providing users' needs/demands using mobile platforms/devices (Prince, 2009; Needham and Ally, 2008).

Mobile libraries had formed by integration of mobile devices with libraries. M-Libraries have a vast scope. Any approach that enables the use of mobile devices in libraries can be included in this scope. This could include;

- Accessing library content
- Developing a mobile interface for library website and catalogue

- Developing a dedicated mobile application for library website and catalogue
- Developing a dedicated mobile application for content for providing to users
- Using mobile devices/applications to retrieve and interact to library
- Referring to library's social networks and bookmarks (Alcock, 2011).

Mobile libraries could provide their services on mobile devices. With rapidly growing number of people accessing to Internet by their tablets, mobile and smart phones, libraries were started to investigate new ways to retrieve their services to users via mobile phones, tablets and smart phones so their users can be able to reach them any time anywhere. This can be simple or complex for example like a text message or like any chance to allow accessing to services on their mobile phones (Needham and Ally, 2008).

In the literature we can see a lot of examples about mobile libraries. The most comprehensive mobile library applications have been implemented by Google. Google has provided to users about 1.5 million full-text accessible books to scan on Google Mobile interface (Google, 2012).

One of the applications of the mobile library has been implemented by the Library of Congress. WorldCat is the World's largest library catalog. WorldCat has provided a chance to scan thousands library catalog via mobile web and mobile applications (OCLC Online, 2012).

A large part of libraries, who are mobile application developer, has data transfer about library and services via mobile web to their users. For example; mobile information literacy training programs developed by some libraries. Mobile version of library use training is just one of such examples in Washington State University Library. Arizona State University Library developed a program for library use and literacy and at the same time of the program's exam can be made through the mobile web (Lippincott, 2008:3; Arizona, 2009).

In Turkey Middle East Technical University and Istanbul Technical University made mobile library applications. Users can reach catalogue, library content, any information about library, scan any databases or OPAC (Middle East Technical University, 2012; Istanbul Technical University, 2012).

Mobile Device and Internet Usage in Turkey

World has 1.1 billion smart phone users. This figure (1.1 billion) is just 17% of the total mobile phone users. Turkey has 13 million smart phones. This figure shows that 19 percent of the total devices are smartphone. Turkey's ranking is 20th in the world ranking order with smart phone users. 13% of all Internet usage occurs by mobile devices (Meeker, 2012).

The World has over 6 billion mobile network users (World Bank, 2012). Turkey has 67.16 million mobile network users. 11.561.579 users of mobile networks are using Internet on their devices (BTK, 2012). Mobile internet usage is doubling year on year. Now, 8.5% of mobile networks users are using Internet via mobile devices (Stat Counter, 2012).

Turkey's mobile phone users' number is 61,769,635. If we divide usage to categories; 34% currently use for social networking and 25% users are interested in use for social networking, 31% currently use for applications and 25% users are interested in use for applications, 36% currently use for web browsing and 27% users are interested in use for web browsing (TNS Global, 2012)..

Conclusions

Social networks and mobile devices have important value in the world. With social networks the world is changed. Turkey has over 31 million social networks users and 40% of population is Internet users (Turkish Statistical Institute, 2012; BTK, 2012). Also, Turkey even the World almost addicted to use social networks. Turkey's Internet and mobile device usage figures show us, Information Centers could provide their services on mobile interfaced website, within social networks and with mobile applications.

When we look at the reports, we can see that mobile libraries idea has changed. Now, mobile libraries include mobile devices, social networks and their applications. Information centers had to change their servicing way to catch the Mobil Age and users. As well as libraries should provide library services, facilities and opportunities in shortly time, with rapidly way and in the desired ways and formats. Mobile applications and social networks are providing all of this chance to libraries. When we look at the use of social networking and mobile devices, we can see that libraries should rapidly move on the social networks then they can gain or have some benefits and solve problems as like as "communication, respond to positive / negative feedback, marketing / advertising, understanding users better". The Information centers can give their services by social

networks more than the classic way. By the way, mobile social networks have same popularity and importance. Information centers could use that chance for creating new applications with smart phones and tablets. According to statistics, mobile world will fill the gap of classic Information centers.

We can adopt the following suggestions;

- Information centers should adopt mobile libraries.
- Information centers should use every opportunity of mobile libraries.
- Information centers should integrate their service to social networks.
- Information centers should develop library application.

In brief, Information Centers should find easier ways to supply library services to users. Absolutely, this way could be succeed with mobile devices and social networks.

References

Alcock. (2011). *M-Libraries.* Retrieved December 1, 2012, from http://mlibraries.jiscinvolve.org/wp/2011/11/15/what-is-m-libraries/.

Alexa. (2012a). *Pinterest.* Retrieved December 1, 2012, from http://www.alexa.com/siteinfo/pinterest.com.

Alexa. (2012b). *Twitter.* Retrieved September 30, 2012, from http://www.alexa.com/siteinfo/twitter.com.

Arizona State University. (2009). *Tutorials*. Retrieved December 1, 2012, from http://lib.asu.edu/tutorials.

BTK. (2012). *Quarterly reports.* Retrieved September 30, 2012 from http://www.tk.gov.tr/kutuphane_ve_veribankasi/pazar_verileri/ucaylik12_2.pdf.

Das, S. K., Karkee, P. & Majumder, K. (2009) Managing social networking in web-based society: A need-based approach of present generation online users in 7th *International Convention on Automation of Libraries in Education and Research*.

Dictionary. (2012). *Social networks.* Retrieved December 1, 2012, from http://dictionary.reference.com/browse/social+networks?s=t.

Facebook. (2012a). *Facebook*. Retrieved December 1, 2012, from http://newsroom.fb.com/Key-Facts.

Facebook. (2012b). *Facebook*. Retrieved December 1, 2012, from http://newsroom.fb.com/download-media/4227.

Go Gulf. (2012a). *Social networking.* Retrieved December 1, 2012, from http://www.go-gulf.com/blog/social-networking.

Go Gulf. (2012b).*Social networking ranks.* Retrieved December 1, 2012, from http://www.go-gulf.com/blog/social-networking-user.

Google. (2012). *Google Book Search.* Retrieved December 1, 2012, from http://books.google.com/m.

Google+. (2012). *Google Plus*. Retrieved December 1, 2012, from http://www.google.com/intl/en/+/learnmore/.

Internet World Stat. (2012). *World stats.* Retrieved December 1, 2012, from http://www.internetworldstats.com/stats.htm.

Istanbul Technical University. (2012). *Mobile application.* Retrieved December 1, 2012, from http://kutuphane.itu.edu.tr/t/04/hi50.html.

LinkedIn. (2012). *LinkedIn.* Retrieved December 1, 2012, from http://press.linkedin.com/About.

Lippincott, J.K. (2008). Mobile technologies, mobile users: Implications for academic libraries. *ARL: A Bimonthly Report*, 261, 1-4. Retrieved December 1, 2012, from http://www.arl.org/resources/pubs/br/br261.shtml.

Meeker, M. (2012). *Internet trends*. Retrieved December 1, 2012, from http://www.kpcb.com/insights/2012-internet-trends-update.

Middle East Technical University. (2012). *Mobile library.* Retrieved December 1, 2012, from http://www.lib.metu.edu.tr/en/mobile_library.

Needham, G., & Ally, M. (Ed). (2008). *M-libraries: Libraries on the move to provide virtual access*. London: Facet.

Nielsen. (2012). *Social media report*. Retrieved December 1, 2012, from http://blog.nielsen.com/nielsenwire/social/2012/.

OCLC Online Computer Library Center. (2012). *WorldCat mobile.* Retrieved December 1, 2012, from http://www.worldcat.org/mobile/.

Odabaş, H. (2009). Mobil öğrenmeden mobil kütüphaneye. Retrieved December 1, 2012, from http://odabashuseyin.files.wordpress.com/2011/04/mobil-c3b6c49frenmeden-mobil-kc3bctc3bcphaneye.pdf.

Oxford. (2012). *Social networks.* Retrieved December 1, 2012, from http://oxforddictionaries.com/definition/english/social+network.

Pinterest. (2012). *Pinterest.* Retrieved December 1, 2012, from http://pinterest.com/about/.

Prince. (2009). *M-libraries review.* Retrieved December 1, 2012, from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2759156/.

Stat Counter. (2012). *Mobile internet usage.* Retrieved December 1, 2012, from http://gs.statcounter.com/press/mobile-internet-usage-is-doubling-year-on-year

Social Bakers. (2012). *Facebook statistics.* Retrieved September 30, 2012, from http://www.socialbakers.com/facebook-statistics/cities/.

TNS Global. (2012). *Turkey statistics.* Retrieved December 1, 2012, from http://www.tnsglobal.com/mobile-life/country/feature/tr/tr.

Turkish Statistical Institute. (2012). *News bulletin*. Retrieved September 30, 2012, from http://www.tuik.gov.tr/PreHaberBultenleri.do?id=10880.

Twitter. (2012). *Twitter.* Retrieved December 1, 2012, from https://twitter.com/about#about.

World Bank. (2012). *Mobile phone.* Retrieved December 1, 2012, from http://www.worldbank.org/en/news/2012/07/17/mobile-phone-access-reaches-three-quarters-planets-population.

Wikipedia. (2012a). *Facebook.* Retrieved December 1, 2012, from http://en.wikipedia.org/wiki/Facebook.

Wikipedia. (2012b). *Google+*. Retrieved December 1, 2012, from http://en.wikipedia.org/wiki/Google+.

Wikipedia. (2012c). *LinkedIn.* Retrieved December 1, 2012, from http://en.wikipedia.org/wiki/LinkedIn.

Wikipedia. (2012d). *Pinterest.* Retrieved December 1, 2012, from http://en.wikipedia.org/wiki/Pinterest.

Wikipedia. (2012e). *Twitter.* Retrieved December 1, 2012, from http://en.wikipedia.org/wiki/Twitter.

E-Book Lending Services in Libraries: Case Studies and Experiences from Hungary

Alexandra Szalacsi
University of Pécs, Institute of Library Sciences, Faculty of Adult Education and Human Resources Development, Hungary. Email: szandy474@gmail.com

Abstract: *My research project aims to provide an overview on the current situation of e-book lending services in Hungarian libraries. The specific objective of the service is to provide individual copies of current books from an existing stock for temporary read, even if they are under copyright. This need is generated by the mass appearance of e-books and e-book readers in libraries. However, it is difficult to suit this requirement because of different interests of the authors, publishers and librarians. My academic and practical librarian experience suggest - as far as the library use and library visits are concerned - that it should be paid more attention to the emergence of electronic books lending services in libraries. In my research I compared the practices in some libraries how to operate the e-book lending. The paper targets the following research questions: What problems are emerged? What kinds of solutions can be drawn up? How these models are tried to be achieved? My results show that some Hungarian libraries try to develop a business model for ensuring possibilities to users to borrow e-books (content), but there is not a solution which can be useful, cheap, practical and good for everyone in practice. Libraries still can't agree with publishers on many important questions like copyright of digital content or legal deposit.*

Keywords: *E-book, e-book lending, Hungary.*

Introduction

Last year I made a research study on Hungarian university students' attitudes toward e-books and electronic reading habits. The results and popularity of the theme demonstrated that this area is worth to make further research on. In this paper I am focusing on the new agenda set by e-books for libraries.

In recent years, e-books get greater emphasis in libraries and librarians' daily life than ever before. In Hungary - and in abroad too - more and more publishers, self-publishers, distributors are on the market (e.g.: Book&Walk, Publio, Mulimediapláza), and more and more librarians' forums, blogs on e-books can be read (e.g.: Könyv Konnektor, E-könyv olvasó blog, Könyvtár MA). Even in recent months in Hungary, there was created a union for e-books, which aims to coordinate the joint work on harmonizing the different interests of publishers and libraries. They regularly organize events where the different role-players can discuss the multiple aspects of e-books. (Union for e-book's website, 2012) The interest toward e-books is greater and greater, so this is the time when Hungarian librarians need to step, work as soon as possible to be able to find out which are the best ways to serve the needs of their readers.

In abroad, especially in developed countries (USA, UK, and Scandinavian countries) the e-book lending in libraries are alive but in the transition countries like Hungary there is not yet a library where this service exist in its full potential, although several libraries are making experiments in this field. My research question is what role Hungarian librarian has in launching well-functioning e-book lending services? Before my research, there were just a few domestic publications and comprehensive studies on applying e-books in libraries have been published in Hungary. It shows the importance of this topic that Hungarian Library Institute launched a nation-wide survey this autumn in which they compared the users' current needs and expectations toward mobile-optimized and e-book services with the libraries' present practices (Tóth, 2013).

In my research I compared some library types' practices how to imagine the operation of the e-book lending. My research is not representative therefore it is only a snapshot of the situation of Hungarian e-book lending services.

When I chose this research topic, in Hungary there has not been existed research about e-book lending in our libraries. I wanted to prove that there is a pretension of e-book, and the e-book lending can have a significant role in the library.

Methods

My research is based on a questionnaire that is filled in by Hungarian librarians from different library types. I sent and shared my questionnaire on library related Facebook pages and on a well-known and heavily used library mailing list, called Katalist. Katalist is the biggest and most popular library communication forum in Hungary, which has hundreds of members. One hundred and two respondents filled it in within two week. I asked them for example if they know what the e-book is; if they read e-book; what they think, if the e-book lending can have a significant role in the library and how they imagine using this service.

Demographic Variables

The respondents of the questionnaire are mostly women (75%) as female people are over-represented in the Hungarian library community. Most respondents are young, 44% are under 35 years. The youngest is 21; the oldest is 65 years old. They had to mark the library type they work at. 45% work in public, 31% in academic, 11% in special and 10% in school libraries. The national library is represented in our sample with only 2 people (2%). 8% of the respondents work in other libraries and also 8% is not working; they are unemployed or work in another fields of the profession. Possibly they are teachers in the higher education or working at the IT business sector in a library related position.

Results

First we asked our respondents if they know what the e-book is. Fortunately we got one hundred and two "yes" answers. To the next question - if they read e-book - almost half of the respondents 42% gave positive answer. The next questions were what they think if e-book has got a place in library and if it would be worthwhile to include the e-book lending into library services. As in the first and second figure shows, a clear deviation of 1% of the respondents answered "yes" to both questions.

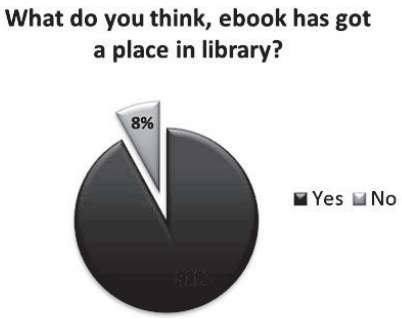

Figure 1. What do you think; users want to e-book lending service in the library?

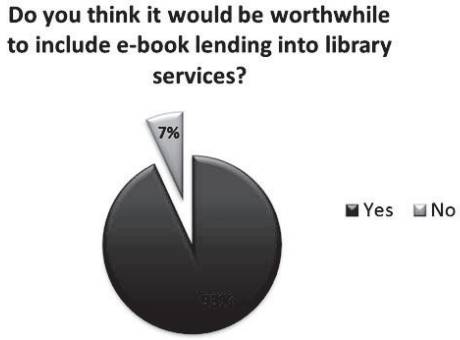

Figure 2. Do you think it would be worthwhile to include e-book lending into library services?

This question was followed by an open ended one, in which they could explain their opinion a bit more complex. I present some interesting answer.

- "We have to get forward the XXI. Century, include the information society opportunities, such as e-books are essential in the future."
- "The number of mobile devices is growing time to time and the number of digital devices is also growing getting better content to read, more and more people are discovering that it's not such a bad thing, just thing about the paper saving, cost reduction. In addition a lot of literature we need only for a limited period of time."
- "The public library is about satisfying the "traditional" user needs, but it is important to keep abreast of the times when new information sources are available to it."
- "Our library enough specific, so it wouldn't be possibility by us there is no demand for infrastructure, frame and requirement beyond a certain level. According to our experience, the students tend to decline reading an article, if they have to pay, but them preferring the electronic version if they are available free. (e.g., EBSCO, JSTOR) As a user in a public library I have resort to online services especially foreign documents which are not available from home. Especially those foreign languages e-books which are inaccessible on paper, but the price of the service are an important factor.

- "It would be foolish to ignore the needs of the development of the technology. This would result in an addition to the library falls out the society. Rather, it needs to keep pace with the new challenges."

To tell the truth, I was really glad to read these answers because these show that the theme is very current and important field to do research on. Nevertheless, e-books are available for reading just in a few respondents' library (subscription database through the computer). (See: Figure 3.) But they squarely think that library users need the e-book lending service in their libraries. (See: Figure 4.) (Tóth, 2013) confirmed this fact by analyzing a much larger amount of data.

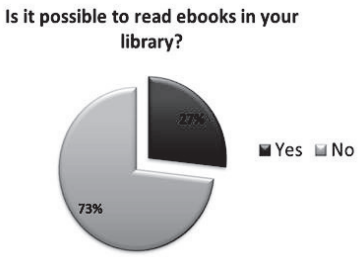

Figure 3. Is it possible to read e-books in your library?

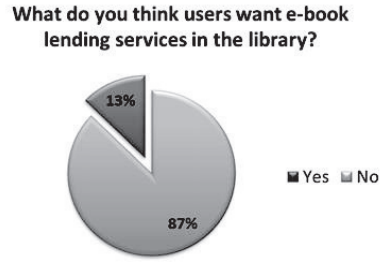

Figure 4. What do you think users want e-book lending services in the library?

The last two questions relate to how they could imagine the e-book lending services in the library and according to their opinion what are the most important obstacles. They could select their answers from different types of business models such as pay-per-view, PDA (Parton Drive Acquisition), perpetual access, subscription and other else. These elements are already using in the USA libraries business models (Enis, 2012).

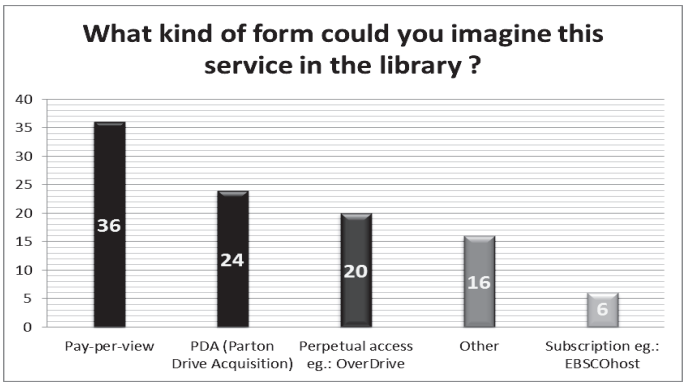

Figure 5. In what form you could imagine this service in the library?

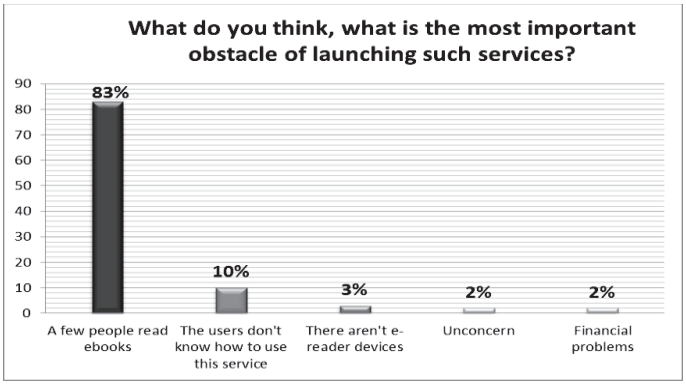

Figure 6. What do you think, what is the most important obstacle of launching such services?

As you can see on the diagram, the results show that Hungarian librarians almost believe that there are still a few people who are reading e-books. (Tóth, 2013) measured also a relatively high proportion of librarians who think that people don't need such services. On the other hand users didn't confirm it stating that they would use such services in case of existence. Could it be true internally and externally? Unfortunately internally does not exist a statistic of e-book reader's numbers (Könyvkonnektor, 2012; Thy, 2012). But,

there are research and statistics, for example: in the USA the number of people owning e-book readers and consuming such electronic content is increasing every year (Hoffmann, Bertot, & Davis, 2012).

Finally, I have to mention an important problem that most of the Hungarian library has got a financial problem, and in my opinion they will buy a new paper books earlier than an electronic.

Summary

On the whole it can be said that Hungarian librarianship in particular and the profession in general is facing a new challenge, which makes it necessary to develop a clear business model. It seems that we still don't have information about our users' habits, needs and expectations. I it important that the Hungarian librarianship can keep up the e-book lending tendency and my aim to conduct further research on this topic because, as I mentioned there are blind spots in this area.

Acknowledgements

I would like to acknowledge the support of my teacher, Máté Tóth, the librarians who filled in my questionnaire, and Faculty of Adult Education and Human Resources Development, University of Pécs, that they made possible my trip to Ankara.

References

Hoffman, J., Bertot, J.C. & Davis, D.M. (2012). Libraries connect communities: Public library funding & technology access study 2011-2012. *Digital Supplement of American Libraries Magazine*, June 2012. Retrieved from http://viewer.zmags.com/publication/4673a369

Könyvkonnektor. (2012). Könyvstatisztika, te csalfa! *Könyvkonnektor*. Retrieved Septeber 29, 2012 from http://konyvkonnektor.hu/?p=2419

Enis, M. (2012). The e-book elephant in the room: ALA Annual 2012. *Library Journal*, 2012. Retrieved June 25, 2012 from http://lj.libraryjournal.com/2012/06/shows-events/ala/the-ebook-elephant-in-the-room-ala-annual-2012/

Thy. (2012). *A jövő elkezdődött: Jön a kölcsönözhető e-könyv: Minden, amit az e-könyvről tudni akartunk, de nem mertük megkérdezni*. Magyar Nemzet. Retrieved July 17, 2012 from http://mno.hu/grund/a-jovo-elkezdodott-jon-a-kolcsonozheto-e-konyv-1092486

Tóth, M. (2013). "Mobilized" library services - What do we offer? What do our users want? *Proceedings of the XXI. International BOBCATSSS Symposium.*

Union for E-book's Website. (2012). Retrieved from http://ki.oszk.hu/ekonyvek/tag/egyesules-az-e-konyvekert.

Information Society: Role of the Libraries and Information Professionals

Zarife Yıldırım
Hacettepe University, Department of Information Management, Ankara, Turkey. Email: zarife08@gmail.com

Abstract: *The aim of this study is determine what is the role of libraries, which contain the information that users need, and information professionals, who provide to access this information, in an information society that occur, in the present era, by the result of the technological developments and innovations. In accordance with the paper's purpose maybe what are the duties of the libraries and information professionals can be understood. In this direction a literature review was made at first step. Also a questionnaire was planned to learn the library users' ideas about this subject. After doing a preliminary investigation first results determined. For example, information which increased in direct proportion to developing technology in printed or electronic spaces also increased to need for information professionals who organize the information, make information accessible and provide to users access. Besides the information professionals, libraries as spaces having information, should review their services in the face of information overload to exist in the information society. Due to the fact that information society is a society living intertwined with technology, decreased the rate of using libraries. Because anymore users can remote access what information they want.*

Keywords: *Information society, information overload, information professionals, libraries*.

Introduction

Today, there is a noticeable change and improvement in every segment of society because of development of technology. The most important thing is information that requires this changing, so the societies which affected this changing, called now information society. At the same time if there is an information overload in some society, these societies can be called information society. The information society is a society which has information in every area of life. In the communities which affected by the technological changes information should be used more efficiently and effectively. In a sense, information society means a society that accesses its individuals to information and one of the most important features of the information society is its employees are the people who produce the information and live with information as nested. In an information society the most important and basic resource is information (Tonta & Küçük, 2005).

The aim of this study is determine what is the role of libraries, which contain the information that users need, and information professionals, who provide to access this information, in an information society that occur, in the present era, by the result of the technological developments and innovations. To understand the role of libraries and information professionals a questionnaire was prepared and applied to the active library users. And 58 people replied this questionnaire. The results of the survey will be analyzed in the direction of paper.

Information Society, Libraries and Information Professionals

Information is a real power for the societies from past to present. In the present century information is one of the major sources that a society needs to develop itself. As a concept 'information society' left its mark on 21st century. In this century information is not a tool anymore; it is an aim (Külcü, 2001) to develop the societies. Developing information technologies and information overload also effected this situation (Yamazaki, 2007). Information overload can become a problem sometimes. When humankind lives in an information society, it means people nested with information involuntarily (Edmunds & Morris, 2000). Actually, in one way, developing information technologies caused a change in the societies. As Feather (1998; quoted in Edmunds & Morris, 2000) mentioned development of information technologies made access to all kind of information easier and present to whole people.

Changing in an information society mostly affects the libraries as an information provider centers. Information society helped to change the general approach about libraries. Thus, libraries are not places which just protect and organize the information resources, understood (Kurulgan, 2005). Undoubtedly, libraries are organizations in the societies which most affected the technological changing. If there is information somewhere, that place should have a library. Because the libraries are exist with information.

These features of libraries bring with using the information effectively. Thus, libraries should not be behind the times, they usually have to follow change. This is the best possible way to meet the users' requests.

When you think that "libraries for everyone educated and uneducated, rich and poor", young and old, student and retired, etc. they should provide the same services for each user (Sophist, 2004; quoted in Aqili & Moghaddam, 2008). On the other hand library users are the most important cornerstone in an information society. They create, organize and use the information effectively in every area of life. Libraries' basic target is access to information their users. Due to this target users are very important for them and in the direction of achieving libraries' aim, information professionals have lots of task. Increasing of the information with each passing day gives the information professionals great responsibility. Because an information professional organizes, records and provides to access the information. As Karakaş said, rapidly advancing technology has increased the need for people -information professionals- who open to changing and development access to information (Karakaş, 1994: 339). At the same time, information professionals should present the right information at the right place and right time to library users. When professionals reached the right information at the right place as soon as possible, users can produce new things faster (Tonta, 1999). In this direction information professionals have vital importance in the library services. Thus, professionals must have some skills about using the information technologies (Southon & Todd, 2001). Otherwise users cannot glad of the library services.

Findings & Discussion

The aims of this study try to determine role of libraries and information professionals in the information society. In this study, questionnaire technique was applied to collect data. When collecting data 'strongly agree', 'agree', 'neither agree nor disagree' and 'disagree' answer options generally were used. Just for one question 'always', 'sometimes' and 'never' options were used. The questionnaire was applied to active library users and replied by 59 users.

When analyzed the questionnaire results are as follows:

- 35 people strongly agree, 18 people agree, 3 people neither agree nor disagree and 3 people disagree the information is the most important element which shapes the structure of society in today.
- As can be seen the graphic below 30 people strongly agree, 25 people agree and 1 person disagree about using information technologies effectively in library services facilitate the libraries' works.

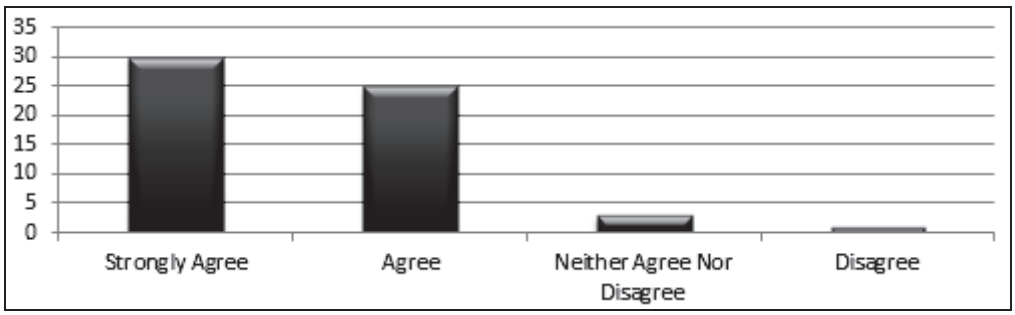

Figure 1. Using information technologies effectively in library services facilitate the libraries' works.

- When look at following idea, in an information society libraries have an active role as an information providers, 22 of 59 people answered that agree this idea. 7 of other 37 people said disagree for this question. Thus this results show libraries are not as active as considered.
- 25 of 59 people strongly agree that qualified information professionals are needed in the information society, but when asked to as existing personnel are meet the expectations about library services, 13 of 59 users chose agree as answer option.
- As can be seen from Graph 2. Information professionals need to have sufficient skills in using information technologies and for this vocational training is very important.

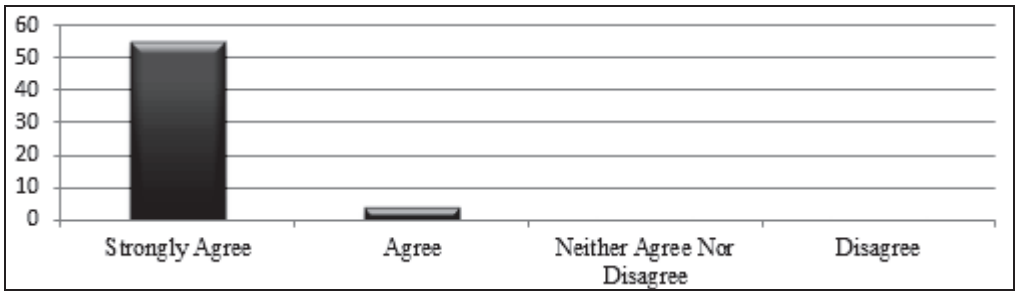

Figure 2. Information professionals and importance of vocational training

In this context information professionals should develop and renew themselves together with technology. In addition in information societies what kind of information is being accessed at least as important as access to information (Yılmaz, 2010). In the knowledge intensive societies if libraries present the information, requested by users, complete, accurate, and timely, their services' quality will be improved. In this societies libraries' materials which selected by information professionals are very important. In this respect information professionals have some inevitable duties which they should know their users very well. There are number of changes as required by the information society such as acquire technological tools and devices library structure. Some of technological changes in libraries can provide an advantage for some users, but for others these changes can be disadvantages. Hence libraries should give their services considering all users. In addition training should be given to library personnel in this direction; by this means usage rate of libraries can be increased.

Conclusion

In this study, trying to identify what is the role of libraries and information professionals in an information society. In this direction a questionnaire was applied to active library users and obtained many useful results.

Most library users who replied the questionnaire think that information is the most important thing in last century, which shows that today's economic power is information. Societies should use the information every segments of life, because societies cannot take shape without using the information effectively.

In an information society developing information technologies must use effective in library services to provide the users' requests at the right time and place. Libraries are the basic organizations for information societies, because if there is information in somewhere it must have a library. Libraries must be available from everywhere to carry on its works.

According to questionnaire results half of users think existing libraries sustain their services (such as reference, cataloging, loaning, etc.) effectively via the information technologies against to information overload. Thus, using information technologies actively in the libraries is very important for users. When used these kinds of things in organizations, their potential clients will be increase.

Information professionals are as important as libraries in the society. Libraries cannot work without information professionals, because they put library services at users' disposal. Hence information professionals must be full-equipped and qualified. However users think that existing information professionals cannot work effectively and have not got enough professional knowledge. To change this thought information professionals must be educated very well. For this vocational training have great importance.

As can be seen libraries that in the role of information provider, and their personnel, information professionals have greater responsibilities and duties in the information societies. Information professionals are required to act and improve themselves in accordance with the users' information needs. In this way libraries can be literally a library of information societies. In an information society, rapid increase in the production of information has increased the importance of libraries, which intertwined with information.

References

Aqili, V. S., & Moghaddam, I. A. (2008). Bridging the digital divide: The role of librarians and information professionals in the third millennium. *The Electronic Library,* 26(2).

Edmunds, A. & Morris, A. (2000). The problem of information overload in business organizations: A review of the literature. *International Journal of Information Management*, *20*(2000), 17-28.

Karakaş, S. (1996). Enformasyon devrimi sürecinde kütüphanecinin rolü. *Türk Kütüphaneciliği*, *10*(4), 339-349.

Kurulgan, M. (2005). Bilgi toplumunun kütüphaneler üzerine etkisi. *ÜNAK'05: Bilgi Hizmetlerinin Organizasyonu ve Pazarlanması.*

Külcü, Ö. (2001). Toplumsal ve ekonomik değişim sürecinde bilgi ve bilgi hizmetleri. *Türk Kütüphaneciliği*, *15*(1), 3-19.

Southon, G. & Todd, R. (2001). Library and information professionals and knowledge management: Conceptions, challenges and conflicts. *Australian Library Journal*, *50*(3), 2001.

Tonta, Y. (1999). Bilgi toplumu ve bilgi teknolojisi. *Türk Kütüphaneciliği*, *13*(4), 363-375.

Tonta, Y. & Küçük, M. E. (2005). Sanayi toplumundan bilgi toplumuna geçiş sürecinde temel dinamikler. *Türk Kütüphaneciliği, 19*(5), 449-464.

Yamazaki, H. (2007). Changing society: Role of information professional and strategy for libraries. *IFLA Journal*. *33*(1), 50-58.

Yılmaz, B. (2010). Türkiye'nin bilgi toplumu politikasında kütüphane kurumuna yaklaşım. *Cumhuriyet Bilim ve Teknoloji*, *1233*, 18.

Dialectic Relations of Nomadism and Idiotism in the Post-modern Global Village: The New Form of "City" in the Internet Space

Vassilis Galanos
Royal School of Library and Information Science, Copenhagen, Denmark. Email: onesecbeforetheend@hotmail.com

Abstract: *Perceptions about living in public and in private tend to change towards our involvement into the digital global village. Important phenomenological relations are seen between the functions of human brain and the World Wide Web. Information is a term that is to be understood in a deeper way rather than the one of the everyday life, as it has a crucial impact on cultural product and vice versa. The new trends in shared knowledge are facts that prove that the new form of travelling is the one of browsing and that a new perception about property with no need of one's side deprivation is possible.*

Keywords: *Information, internet, Netizen, theory, Web 2.0.*

Introduction

This presentation is a theoretical overview of the existence in the digital world of the Internet and focuses on the inversion of the public and private space. The goal is to give a brief theoretical background to information scientists, librarians and Internet users about the importance of living digital in comparison to the pre-internet era.

Netizens: Settled Nomads in the Global Village

The "netizen", combination of the words "net(work)" and "citizen", is a term used for the new form of humans who browse themselves into the World Wide Web (Kaluweit, 2008). The first description of such a global existence was given in the 60's by Marshall McLuhan's prophetic icon of the "global village" (1994). Phenomenological studies provide us with observations for the similarity between the evolution of the "city" in a historical perspective and in a digital one.

Vilém Flusser (1992, 2011 and Kaluweit, 2008) has expressed the idea of the inversion between private and public space. Flusser mentions Hegel's "Unhappy Consciousness", the pendulum notion where a person is losing the self when leaving the private space of the house in order to find - conquers the world and also is losing the world when returning home to find the self. Politics and information exchange was defined by the distinction of an "oikeia/domus" and an "agorá/forum". After the Information Revolution [IR], a great inversion is held between public and private, as we get pretty much more informed when we are inside our homes, rather when outdoors. Two extremes of archetypical human states dominated the political life before the IR. First one was the "nomad", the person who wanders around seeking for information and experience through an intense political life in public. Second one was the "idiot", which, derived by the Greek notion of "idiōtes/ιδιώτης", originally meant the person who is living totally in the private space and therefore is stupid because he is in lack of information exchange. The IR's impact on these archetypes was the inversion of the information exchange process. Flusser argues for the existence of "settled nomads" and "nomadic idiots" in the post-industrial situation. "Settled nomads" are navigated through their personal computer terminals, encountering an innumerable amount of information bits, that are way more than the ones they would encounter in a traditional public life. "Nomadic idiots" wander purposelessly in the once public world, losing, actually, information. Politics held in the public space are, for Flusser's thought, out of date and this fact reminds of Marshall McLuhan's forecast of the political situation.

> *Today, the mass audience (the successor to the 'public') can be used as a creative, participating force. It is, instead, merely given packages of passive entertainment. Politics offers yesterday's answers to today's questions (McLuhan & Fiore, 1967, p. 22).*

Television, radio and home delivered newspapers were the first mass media used to provide information submitted directly from a private space to another private space (Flusser, 1992). But their very essence was anti-political as they were totally passive for humans who couldn't give feedback to whatever they encountered through them. Politicians who appeared on television in order to settle down the citizens were acting anti-politically, as the essence of politics from the times of Aristotle (2009) is the human's participative

behavior in the commune/society. McLuhan and Flusser would see their theories in perfect practice if they lived nowadays. A "forum" is more commonly found through our private navigation through the Internet as time and space are relatively vanished. What was used in the past as public space is now used only for recreation after the information processing that took place in the private. People tend to be less informative and informed when they appear in public. When they wander, they appear more as tourists rather than travelers. The creative exchange of ideas in our everyday digital networked life, with almost no existing barriers, is held now in private, which is more public than ever. Humanity must be conscious of the fact that one "status update" announced from a terminal in a remote small village can be "heard" and affect the minds of thousands of people around the world. Massive collaborative projects, such as Wikipedia and every aspect of the Web 2.0 participative technologies provide substantiation for Timothy Leary's (1994) conclusion that "philosophy is a team sport". Danish artist Asger Jorn proposed on the passage of the 50s to the 60s that "the truth is not unique, but is composed out of several inseparable truths, which are associated with a kind of paradoxical complexity whereas the truth is a complementary system of mutually conflicting truths" (2006, p. 29). This corresponds perfectly to the reality we perceive as a result of our Human-Network Interaction.

Computers synthesize information in their very essence. The etymology of "com-puter" means the one that puts together, who synthesizes/com-poses bits, the informational quanta. This composition is the result of the Human-Computer Interaction (HCI) that later on formulates the "several truths". The netizen who is conscious of the HCI abilities and responsibilities is today's definition of political being.

The Internet City as an Extension of the City

This chapter will try to sustain the hypothesis that the Internet's global city is a precise simulation of the traditional city's archetype. Theoreticians Marshall McLuhan and Martin Heidegger will provide the philosophical basis for this hypothesis. McLuhan's theory of human's extensionality towards the media he creates has to be kept in mind with the following three axioms:

> *All media are extensions of some human faculty - psychic or physical. The wheel is an extension of the foot, the book is an extension of the eye, clothing an extension of the skin, electric circuitry an extension of the central nervous system (McLuhan & Fiore, 1967, p. 26-40).*
>
> *Any extension, whether of skin, hand, or foot, affects the whole psychic and social complex (1964, p. 4).*
>
> *We shape our tools and thereafter our tools shape us (1964, p. xxi).*

It is obvious that if this theory is accepted, then a great correlation of extensionality can be found between the human brain's neuron communication and the networked society. And since human brains were responsible for building cities, habitats, houses and shelters, it is very probable that the same brain functions were used in order to build the digital society, where every neuron related to all the other neurons corresponds to every netizen related to all the other netizens. Heidegger's etymological analysis and explanation on the notions of "building", "dwelling" and "thinking" may shed some more light on this set of reflections:

> *What, then, does Bauen, building, mean? The Old English and High German word for building, buan, means to dwell. This signifies: to remain, to stay in a place. The real meaning of the verb bauen, namely, to dwell, has been lost to us. But a covert trace of it has been preserved in the German word Nachbar, neighbor. The neighbor is in Old English the neahgebur; neah, near, and gebur, dweller. The Nachbar is the Nachgebur, the Nachgebauer, the near-dweller, he who dwells nearby. The verbs buri, büren, beuren, beuron, all signify dwelling, the abode, the place of dwelling. Now to be sure the old word buan not only tells us that bauen, to build, is really to dwell; it also gives us a clue as to how we have to think about the dwelling it signifies. When we speak of dwelling we usually think of an activity that man performs alongside many other activities. We work here and dwell there (Heidegger, 1954, in Malpas, 2006, p. 268).*

In this case, it becomes clear that Heidegger describes in 1954 what, according to the forgotten meaning of the words, building, living and thinking should be. And what he describes can easily be related to what building, living and thinking looks like in the Web. Building a website - and uploading things - is a practice that requires global thinking. What would make this homepage acceptable and easily accessible to the potential visitors? Even the word "homepage" tells a lot about the care given to each page. Living in the Web is a dialectic process between the information produced by every human agent's personal character and demands, and the availability of information in the Web provided by other agents. Of course, this dialectic

relation creates more information, potentially contextualized. The very idea of entering the Web is positively preoccupied by the intention of socializing and interfering with the neighbor. Looking for a noun to express the notion of "neighbourness", one finds the words "adjacency", "vicinity" and "contiguity". The cyber/virtual way of living and being adjacent is not based on terms of space measuring anymore, but is semantic, based on relations that are set by the inhabitants on their new types of public forums (Galanos, 2010, p. 100).

The very history of the Web repeats the human history. Back to McLuhan: "Man is a form of expression who is traditionally expected to repeat himself" (1964, p. 71). Skarpelos (1999, p. 87-88) notes that prostitution, the commercial trade of sexual services, which is considered as the world's oldest profession, meets an analogy in the Internet's first sort of business: pornographic distribution. The word "Agorá" has taken a totally different meaning from the times of ancient Greece to the modern ones. While "Agorá" meant the public gathering place for the city's assemblies and the correspondent verb was "agorèbein", that meant "to talk in public", the modern meaning of "Agorá" is the market place and the correspondent verb is "agoràzō" which means "I buy". One may see a sort of similar tendency to arise in the Internet too. A turn from an absolute democratic space to an absolute marketplace.

The definition given to Web 2.0 by Hoegg et al. can be considered as the expected result of this Internet history. According to them (2006, p. 13), Web 2.0 can be defined as "the philosophy of mutually maximizing collective intelligence and added value for each participant by formalized and dynamic information sharing and creation".

The Reading Praxis in the Age of Hyperlinks: Connective Consciousness of the Collective Unconscious

According to Crowley & Mitchell (1995) and Castells (1996, p. 328) the networked society develops a new form of meta-language that blends all sorts of codes used until now. Alphabetical linear writing, digitized paintings, photographs, technically processed images, videos, oral archives and audiovisual material, all are saved and distributed in the World Wide Web, the medium of the creative globalization. Traditional texts are now replaced by hypertexts and the whole reading praxis is a different experience.

A phenomenological point of view can instantly show that humans return from the turning-book-pages gesture to the scrolling-texts mode, which didn't occur for a long time, at least since the age of Gutenberg. If one imagines a scholar of the ancient times entering a library full of scrolls with very basic subject indications above them, one understands that the scholar of this time might have some great trouble on finding precise information and would probably be led to another subject to investigate. But this would be the result of impreciseness. When scrolling in the Internet, a netizen scholar might encounter an interesting underlined hyperlink. Then one can imagine the scholar navigating from hyperlink to hyperlink, and, due to the temporality of the human memory, to never return to the browsed pages, but just collect bits of information, just like the nomadic hunters of the primordial times chased their prey, collecting traces that lead to a temporary solution for hunger. And, of course, this temporality of the human memory is to be juxtaposed to the computational never erased memory. Mayer-Schönberger (2009) exhaustively reviews the fact that the Internet never forgets. And if this fact is related to a platonic point of view, where learning is in fact remembering and recognizing, then the whole cognitive process can be viewed through a very new prism for perceiving the collaborative conscious. One can think that Durkheim's theory of collective consciousness which is structured by the totality in common beliefs (Allan, 2005, p. 108) inspired Jung's theory of collective unconscious (1996, p. 43) that is the common background of archetypes inherited to every person through the universal and impersonal nature of all individuals. The evolution of these theories in the digital age, combined with humans' reflections on their computers and the irreversible memory documentation is the sign for a new collective consciousness which is quite conscious of its unconscious. It is a sign that needs to be explained and de-signed. A significant sign, which awaits the evolution of the semantic web. Terms related to the upcoming Web 3.0 as the pervasive, the 3D, the media-centered and the semantic web are effects of this evolution. Scenarios for a Web 4.0 (Hendler, 2008) make the discussion even more challenging.

The reading gesture is assimilated to the one of crocheting. The texts are made of horizontal lines that meet completion only with our vision's vertical movement. The word "line" is derived from the Latin "linea", that means the thread. The purpose of the thread is to create textures. The relation with the "text" is obvious. If this is taken into account, the importance of the raw information's signification process by the reader/beholder is shown and this is how the common basis of the available information in the Web is affected by meaning giving praxis from each individual's point of view - creating, thus, the new collective consciousness. And this how a mere "collection" of thoughts that is saved somewhere, when assessed by a user can lead to a "connection" between the producer of the raw information and the new meaning applier. Perhaps the collective consciousness can now be called the "connective consciousness".

Nature & Culture, Immaterial & Material: Ownership without Deprivation

A mcluhanesque type of relation between "us" and our "tools" can be found in the relation between information and cultural product. Information creates the cultural product and thereafter cultural product creates information. "Information" is actually very close to the meaning of "culture". To "in-form" means to cultivate, to formulate and shape the given material. But every sort of given material is also perceived as information. The shaping of a given "natural" product results the "cultural", which under different circumstances can be perceived as "natural" (Flusser, 1999, pp. 90-92). A part of this process requires documentation, and this happens with the technological and conscious advancements described above. Bell's (1976) Post-industrial and Castells' (1996) Network societies agree to the fact that the production of cultural product is also a form of storing and saving information in order to modify it and overtake it later (Bell, 1976 and Castells, 1996).

The private information users, or the "settled nomads" (Kaluweit, 2008) are the ones who prove that the dematerialization process of the digital world can create the conditions for a world where somebody's ownership doesn't necessary mean someone else's deprivation (Hendler, 2008). The digital entities' ability to become exact copies of themselves leads to a new way of thinking towards physical and intellectual property. Judging by the market (Flusser, 1999, p. 90-92), the material goods, a.k.a. the hardware, tend to miniaturize and get more and cheaper, while the unseen immaterial goods, a.k.a. the software, rapidly develop and become more and more expensive. But "nature" led people to find alternative ways for the development of "culture".

Terms as the "Creative Commons License", "open source" or "free download", are leading theory into instant practice and they can be considered as the natural results of the netizens' need for cultivation. The depth involvement of as many people as possible into the capabilities of the Web can create an environment that corresponds to the levels of these capabilities (O'Reilly, 2005). The annihilation of time and space gives no time for bothering with the side requirements of a society based on media of a long distance space. Information literacy is needed as a basis in every aspect of human interests in order to achieve equality and collaborative innovation in the contemporary linked environment.

Conclusions

Being challenged by the information flood that is surrounding them, a wide range of people, from information scientists to average Internet users must be conscious of the inversion of "public" and "private". This inversion is crucial in terms of ethics, politics, ontological and existential being and also aesthetics. The notion of the "netizen", the new type of "settled nomad" has been examined in this paper, under the philosophical light of Marshall McLuhan, Martin Heidegger and Vilém Flusser. The netizen's new type of public life in the linked vicinity of the digital city was presented on mutual dependence with the development of the semantic Web technologies. A philosophical and phenomenological approach to the production of information and culture was attempted and resulted that they are dialectically related in a cycle that produces more information, stored forever into the Web's permanent memory. This type of new environment creates a blend of the terms "collective consciousness" and "collective unconscious" that can be named "connective consciousness". The expression of these theories supports the tendencies for Open Source and Creative Commons licensed products towards the global collective of an ownership that doesn't require deprivation.

References

Allan, K. D. (2005). *Explorations in classical sociological theory: Seeing the social world*. California: Pine Forge Press.

Aristotle (2009). Politics: A treatise on government. *Project Gutenberg*. Retrieved December 12, 2012 from http://www.gutenberg.org/files/6762/6762-h/6762-h.htm

Bell, D. (1976). *The coming of post-industrial society*. New York, NY: Basic Books.

Castells. M. (1996). *The rise of the network society*. Oxford: Blackwell.

Crowley, D. & Mitchell, D. Eds. (1995). *Communication theory today.* Stanford, CA: Stanford University Press.

Flusser, V. (1990). *Television, image and political space in the light of the Romanian revolution* [videofile]. Retrieved October 19, 2012 from http://www.youtube.com/watch?v=QFTaY2u4NvI

Flusser, V. (1999). *The shape of things: A philosophy of design*. London: Reaktion.

Flusser, V. (2011). *Onto the universe of technical images*. Minnesota: Univeristy of Minnesota Press.

Galanos, V. (2010). *Ē epirroi tēs plēroforias sto poltistiko proion (Bachelor dissertation).* Thessaloniki: ATEITH.

Heidegger, M. (1971). *Poetry, language, thought*. New York: Colophon Books.

Hendler, J. (2008). Web 3.0: Chicken farms on the semantic web. *Computer*. Retrieved December 21, 2009 from http_//www.comp.leeds.ac.uk/webscience/talks/hendler_web_3.pdf

Hoegg, R., Martignoni, R., Meckel, M., & Stanoevska-Slabena, K. (2006). *Overview of business models for Web 2.0 communities*. Retrieved January 12, 2010 from http://www.alexandria.unisg.ch/export/DL/31412.pdf

Jorn. A. (2006). *Peri morfēs*. Thessaloniki: Nēsidēs.

Jung, C. G. (1996). *The archetypes and the collective unconscious*. London: Routledge.

Kaluweit, R. (2008). Postmodern nomadism and the beginnings of a global village. *Flusser Studies*, 7, 1-18.

Leary, T. (producer), Cavella, J. & Graves, C. (directors). (1994). *How to operate your brain*. [VHS]. California: Tapeworm Video Distribution.

Malpas, J. E. (2006). *Heidegger's topology: Being, place, world*. Cambridge: The MIT Press.

Mayer-Schönberger, V. (2009). *Delete: The virtue of forgetting in the digital age*. Princeton and Oxford: Princeton University Press.

McLuhan, M. & Fiore, Q. (1967). *The medium is the massage*. London: Penguin.

McLuhan, M. (1964). *Understanding media: The extensions of man*. New York: Signet.

O'Reilly, T. (2005). *What is Web 2.0.* Retrieved December 21, 2009 from http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html

Skarpelos, G. (1999). *Terra virtualis Ē kataskevē tu kubernoxōrou.* Athens: Nefelē.

Information Literacy (IL) Approach in Turkey

İpek Şencan
Hacettepe University, Department of Information Management, Turkey. Email: ipeksencan@hacettepe.edu.tr

Deniz Ermişoğlu
Hacettepe University, Department of Information Management, Turkey. Email: deniz08@hacettepe.edu.tr

Hakan Dikbaş
Hacettepe University, Department of Information Management, Turkey. Email: hkn_dkbs@hotmail.com

Melisa Gelbal
Hacettepe University, Department of Information Management, Turkey. Email: melisagelbal@gmail.com

Meriç Dirik
Hacettepe University, Department of Information Management, Turkey. Email: mericdirik@gmail.com

Abstract: *Information literacy is an important skill for meeting information needs and using information by utilizing technological possibilities in the changing world. Also, this skill is required for humans' personal development and protecting them from the social exclusion. For spreading information literacy which is of great significance is possible with creating awareness in the society by government policies and some applications in different types of institutions. In this study, it is aimed to introduce the position of information literacy in Turkey. For this purpose, the applications in different types of libraries such as school, public and university libraries were analyzed. In addition to this purpose, another point of this study is to examine government policies capacity from the point of information literacy. At the end of the study suggestions were made about the deficiencies of information literacy approach in Turkey.*

Keywords: *Information literacy, information literacy in Turkey, information literacy approach, IL.*

Introduction

IL is an important and necessary ability in this era. Many components like technological developments go into our lives day by day. Thus, information necessity and information usage are becoming inevitable elements for people. If people want to be a part of the life, they have to become skillful at many areas and use the information most properly. According to these things, IL abilities are getting more and more important.

In the literature, there are a lot of definitions about information literacy. These definitions can gather in two different groups: about the information literacy concept and about the information literate people's features. Eisenberg, Lowe and Spitzer cited Paul Zurkowski's definition as, "People trained in the application of information resources to their work can be called information literates. They have learned techniques and skills for utilizing the wide range of information tools as well as primary sources in molding information-solutions to their problems" (2004, p. 3). Another definition belongs to American Library Association Presidential Committee on Information Literacy (1989), "Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand".

Information literacy concept emerged in 1974. Paul Zurkowski, who is father of the information literacy concept, used that for the first time in a proposal which was presented to National Commission on Libraries and Information Science (NCLIS) (Doyle, 1994, p. 5). After this date, usage of information literacy concept gradually became widespread. Particularly the USA, New Zealand, Australia, Canada and England, many countries carried out pioneering works about information literacy and its implementation.

Findings

In Turkey, this concept took part in the literature relatively later than the world. Lack of policies is the major obstacle for IL in Turkey. In a limited number of efforts have not been enough for popularizing IL approach so far. In TÜSİAD Report (1999) information literacy was not mentioned directly, yet this Report is important in terms of growing competent people and lifelong learning emphasis (Aldemir, 2004, p. 59). Furthermore, in government policies in Turkey, the subject of information literacy was discussed in the report (Information Technology and Policies: Special Expertise Commission Report) which is prepared as part of the VIII. Five-Year Development Plan. In this report, it was emphasized that the main aim of governmental report is to make all people information literate. It was mentioned about information literacy as using computer, finding information by using internet and search engines (Bilişim, 2001, p. 40). In addition, the requirement of information literacy courses for any types of educational institutions is presented by this report (Bilişim, 2001, p. 43). But these reports did not have satisfactory sanction power about IL.

The Council of Higher Education and Republic of Turkey Ministry of National Education are quite important institutions for developing and implementing policies devoted to IL. These institutions have not any exact policy about IL yet. Republic of Turkey Ministry of National Education must have a responsibility for gaining core IL abilities to the primary, secondary and high school students. The Ministry can add IL courses to the curricula and in this way, students can learn basic IL components level by level. Hence, it was added a course which called "Information Retrieval and Searching Techniques" to the curricula by Ministry of National Education in 2002. This course was frustrated because of technical and personnel deficiencies (Kurbanoğlu and Torun, 2009, p. 2). The Council of Higher Education is an institution that must have a critical role, especially for creating awareness, teacher education, training other university students about IL and to provide maintaining lifelong learning activities for the rest of their life. Now, several universities such as Hacettepe and Sakarya Universities have some training modules only for teacher education about IL and in Hacettepe University Department of Information Management also have an elective IL course.

When examined IL from the point of libraries the situation is not different from the poverty of policies. There are some applications intended for IL in different types of libraries in Turkey but these applications is not satisfactory.

In school libraries, especially private schools such as TED College, Tevfik Fikret Private Schools, Bilkent Private High School…etc. present some information intended for information literacy via cooperation between school library and school. For example; In TED College, they explain basic information about the information literacy, the definition and stages of the information literacy, types of information sources and what purposes information sources are used for and alternatives of information scanning through internet and computer. Also they give some information about techniques of writing an essay and how students can cite and write references correctly (TED Ankara College…, 2009). In Bilkent Private High School, they prepare a guide which gives information about how students can follow a way doing their homework. The guide includes specifying a topic, developing a search strategy, using information, synthesizing information from different sources and presentation (Kılavuz, n.d.). On the other hand, there are some works about information literacy in state schools too. There is a Project called ILIPG (Innovative Library Initiatives Promotion Group) that goals are to create awareness about information literacy and to supply development information literacy skills of teens between 12-18 ages. ILIPG is a project ran by universities, The Turkish Librarians Association and the participation of foreign cultural centers and 15 schools from İstanbul in 2007. In the second stage of the Project, it was objected to train teachers in İstanbul about information literacy. In this way both teachers and students could be gained information literacy skills (ILIPG Bilgi Okuryazarlığı, 2011).

Looking at the situation in terms of the public libraries, it exists 1066 public libraries in Turkey in respect of 15 December 2012 (KYGM Halk…, 2012). The number of librarians in these libraries is 316 by 2011 (KYGM İstatistikler, 2012). Public libraries are main institutions for lifelong learning and for giving service all people from 7 to 77. Based on this, information literacy and public libraries is not thought that they separated from each other. In Turkey, there are not any item to develop or support information literacy or lifelong learning in Republic of Turkey Ministry of Culture and Tourism "Public and Children Libraries Regulations" (Ersoy & Yılmaz, 2009, p. 812). On the other hand, some public libraries organize some activities only such as hobby courses, photography, etc. within the lifelong learning activities (Ersoy & Yılmaz, 2009, p. 817). Besides, there were some attempts for taking place projects (e.g. PULMAN-XT) directed to IL by Turkey, yet it were not been successful to actualize these attempts.

User training and the orientation services which are given by reference department of the university libraries includes information literacy education slightly. Most of the university libraries give a part of information

literacy education within these user training and orientation services. In Bilkent University Library organized a seminar about information literacy in 2011. The purpose of this seminar is to train the librarians in information and document management in the field to bring together academics and other relevant professional groups, to learn and share librarianship, information science and technology, the latest developments, innovations and experiences to discuss (Bilkent'te Kütüphanecilik Seminerleri: Bilgi Okuryazarlığı, 2011). Only several university libraries like Koç University Suna Kıraç Library (2012) have directly IL tutorials. Moreover, it was prepared an information literacy program which called HÜBO (2010) by Hacettepe University Department of Information Management. It contains many training modules devoted to IL. All of these activities are not enough for extending IL abilities.

Conclusion

The way of becoming an indispensable element of life of information literacy is that depends on the creation of awareness of information literacy. To achieve this goal, government policies, the approaches and the applications are getting more important day by day. In consideration of the state of IL in Turkey;

Using IL concept has been quite new. According to that, the practices oriented to IL are quite a few and also insufficient. There is still not any exact policy about IL. Potential studies show that awareness start to occur recently countrywide.

Some important public institutions such as YÖK and MEB are related with enhancing and applying IL works. Yet, it does not exist any particular policy which is adopted by these institutions about IL.

Furthermore, in many schools do not have any library and librarian. This is the big problem that who teach IL components to the students. Teachers or librarians? If librarians teach it, they must be employed. If teachers teach it, firstly teachers must be taught about IL during their university education life. Also, existing IL applications in school libraries is limited to several private schools.

Public libraries do not have any activity directly related with the IL. Their applications consist of lifelong learning activities mostly.

Many university libraries' services and actions devoted to IL are restricted with only user training framework. There is not any exact IL implementation program/module in most of them.

It is not sufficient to provide cooperation between librarians, teachers and managers for developing IL practices.

Suggestions

- Awareness of information literacy should be initiated at an early age. Institutions such as the Ministry of National Education could be developed a common standard for IL. Also an IL course should be added to the curricula for each level of students (pre-school, primary, secondary and high school).
- It must be cooperation between institutions such as Ministry of National Education, Ministry of Science, Industry & Technology and Ministry of Culture & Tourism, YÖK (The Council of Higher Education), TÜBİTAK (The Scientific and Technological Research Council of Turkey), some professional associations, different types of libraries, librarians, managers and teachers in order to create awareness, enhancing new policies/standards and implementing them.
- It must be provided that IL training is a part of the core education.
- Seminars, conferences, workshops, training modules, remote and direct training programs about the information literacy might be held for the employees of agencies and institutions.
- Especially, public libraries can be acted an important role for giving IL training to the different groups of people (children, adults, old persons...etc.).
- Information literacy courses might be given for the faculties of education and teachers must be trained about IL. The IL courses for the faculties of education might be given in cooperation with the librarians.
- It must be improved IL projects in order to create awareness and increase the levels of individuals for IL.
- In all university libraries should be had IL training modules apart from the user training devoted to academicians, university students, researchers and in house employees.
- For all schools must have libraries and IL activities must be carried out by cooperation between teachers and librarians.

References

Aldemir, A. (2004). *Öğretmen adaylarının bilgi okuryazarlığı düzeyleri üzerine bir araştırma: Sakarya Üniversitesi örneği*. Unpublished master's thesis, Ankara: Hacettepe University. Retrieved December 02, 2012 from http://eprints.rclis.org/bitstream/10760/8192/1/tez-pdf.pdf

American Library Association Presidential Committee on Information Literacy. (1989). *Presidential Committee on Information Literacy: Final report*. Washington, D. C.: American Library Association Presidential Committee on Information Literacy. Retrieved October 25, 2011 from http://www.ala.org/ala/mgrps/divs/acrl/publications/whitepapers/presidential.cfm

Bilişim Teknolojileri ve Politikaları Özel İhtisas Komisyonu Raporu. (2001). *Sekizinci Beş Yıllık Kalkınma Planı,* publication number: DPT: 2560 - ÖİK 576. Ankara. Retrieved August 25, 2012 from http://ekutup.dpt.gov.tr/bilisim/oik576.pdf

Bilkent University Library Blog. (2011). *Bilkent'te Kütüphanecilik Seminerleri: Bilgi okuryazarlığı*. Retrieved August 25, 2012 from http://bilkentlibrary.wordpress.com/2011/11/21/bilkentte-kutuphanecilik-seminerleri-bilgi-okuryazarligi/

Doyle, C. S. (1994). *Information literacy in an information society: A concept for the information age*. New York: ERIC. Retrieved December 12, 2012 from http://books.google.com.tr/books?id=Z1IJ6A97WnsC&printsec=frontcover&dq=information+literacy&hl=tr&sa=X&ei=qabMUODwEInN4QTemYHwCA&sqi=2&ved=0CF0Q6AEwCA

Eisenberg, M. B., Lowe, C. A., & Spitzer, K. L. (2004). *Information literacy: Essential skills for the information age.* USA: Libraries Unlimited.

Ersoy, A. & Yılmaz, B. (2009). Yaşam boyu öğrenme ve Türkiye'de halk kütüphaneleri. *Türk Kütüphaneciliği*, *23*(4), 803-834. Retrieved August 24, 2012 from http://tk.kutuphaneci.org.tr/index.php/tk/article/view/2097/4147

HÜBO. (2010). Retrieved August 25, 2012 from http://hubo.hacettepe.edu.tr/#

ILIPG Bilgi Okuryazarlığı. (2011). Retrieved August 25, 2012 from http://www.ilipg.org/bilgi-okuryazarligi

Kılavuz. (n.d.). Retrieved August 25, 2012 from www.bilkent.edu.tr/~obl/Doc/KILAVUZ1.doc

Koç University Suna Kıraç Library. (2012). Retrieved December 12, 2012 from http://libguides.ku.edu.tr/content.php?pid=39614

Kurbanoğlu, S. & Torun, O. (2009). *II. Ulusal Okul Kütüphanecileri Konferansı "Bilgi Okuryazarlığı"ndan "Yaşam Boyu Öğrenme" ye sonuç bildirgesi*. İstanbul: TKD, Üsküdar Amerikan Lisesi, OKIG. Retrieved December 12, 2012 from http://www.uaa.k12.tr/Files/Ups/Editor/sonuc_bildirgesi_.pdf

KYGM Halk Kütüphaneleri İcmali. (2012). Retrieved December 15, 2012 from http://www.earsiv.gov.tr/bina/

KYGM İstatistikler. Bakanlığımıza Bağlı Halk Kütüphanelerinin 2011 Yılı İstatistik Bilgileri. (2012). Retrieved August 27, 2012 from http://www.kygm.gov.tr/TR,9/istatistikler.html

TED Ankara College - Information Liteacy. (2009). Retrieved August 25, 2012 from http://library.tedankara.k12.tr/index.php/be

TÜSİAD. (1999). *Türkiye'de mesleki ve teknik eğitimin yeniden yapılandırılması*. Report Number: TY/184/1999. İstanbul: Türk Sanayi ve İşadamları Derneği. Retrieved December 12, 2012 from http://www.tusiad.org/__rsc/shared/file/meslekiegitim.pdf

University Librarianship in the Open Access World and the Changing Roles

Burcu Keten
Middle East Technical University, Ankara, Turkey. Email: bketen@metu.edu.tr

Gültekin Gürdal
İzmir Institute of Technology, İzmir, Turkey. Email: gultekingurdal@iyte.edu.tr

İlkay Holt
Ozyeğin University, İstanbul Turkey. Email: ilkay.holt@ozyegin.edu.tr

Abstract: *Technological developments have redefined the cycle of scholarly communication, brought new models into the publishing and expanded the scope of the services offered. These developments mean that a revision to the institutional and social role of the university librarian is required. The primary duties of university librarians is to create a knowledge ecosystem featuring reliable and accessible sources of information which are collected, shared and protected in different formats as well as information services based on the expectations of current and future users within the framework of the university's vision and mission. Establishing and maintaining a reliable information environment, enabling the accessibility of scientific information, and allowing scientific communication are now required. In this context, it is important that the shaping and restructuring the role of librarians presents a wide variety of threats and opportunities. By examining the development of the open access movement both in our country and abroad, we can see that the priority in changing role of university librarians is to create awareness about open access. Awareness-raising process requires continuity and this requirement creates the need for the specialization on the subject and the related literature of the university librarians. In order to liaise with research about open access resources, university librarians themselves need to be knowledgeable about open access publishing and about the rights of the authors, who may publish their scientific work in open access journals or deposit them in open access digital archives. While the open access movement expands the competence areas of university librarians, it also encourages the acquisition of new knowledge and skills in addition to those acquired through conventional degrees. All this brings the university library world much closer to the research environment. University librarians, in collaboration with institutional research units, with their changing roles, new qualifications and skills, can be part of future successes.*

Keywords: *Open access, university librarianship, higher education, scholarly communication*.

Open Access and its Impact in Academic Environment

The open access movement has been a part of daily life in the last twenty years through its dynamics increasing the impact of research, and removing cultural, geographical, political and financial restrictions to spread education to larger crowds. Such basic factors underlying this movement as charged access to researches financed by public funds, skyrocketing subscription fees for journals, decreased institutional budgets and copyrights waived in full by their owners have influenced not only the researchers, but also their complementary units i.e. institutional employers, libraries, publishers and naturally readers. The fact that open air publication is increasing the impact of researches in almost all disciplines thanks to the impact created by these developments and the changes it caused has been studied in various researches. Said increase of the impact of researches creates impact at macro level to help science to improve, to increase communities' socioeconomic strength and to provide cultural enrichment on the one hand, and creates criteria showing the researcher's contribution in academic environment at micro level on the other hand.

A glance at researches' impact at macro level reveals that making the researches financed by public funds available to the public without restriction through open access will be obligatory through the projects to be realized under the E.U. frame programs, Horizon 2020 to be launched in 2014, and legislation to be enacted for them. As a result, making the results of researches available to maximum large masses will be made obligatory by the politicians, and this process will maximize the impact of researches. At the same time, this process will free the academic circles, the libraries they use, and individual members of the public from providing duplicated financing to gain access to such researches, so that it will make a direct contribution to the national economies.

An assessment at micro level reveals that in the present higher education institutions make academic promotions depend on measurement of each academician's research impact. To increase this impact, academicians have to gain access to the information resources they need, but it is not possible for institutions or individuals to gain access to over 2.5 million papers published in over 25,000 refereed journals. Therefore, the scholarly world makes open access available through fully open access journal publication, obligatory archiving or self-archiving. Some studies report that the websites of publishers represent 8.5% open access papers, and 15% of the researches perform self-archiving (Björk, 2010; Gargouri, 2010). These statistics indicate how little is the resources to which the researchers could gain access through open access. At this point one might emphasize the role played by the libraries and librarians of higher education institutions as one of the largest stakeholders in the field of helping gain access to resources and expanding the scope of said access.

The open access that makes it possible to increase the research impact mentioned above is provided by open access journal publication and self-archiving. Librarians directly contribute to increase journals registered with DOAJ available to the users or alternative to the journals issued by traditional publishers, spending their budgets to support open access publication, and encouraging researchers to self-archive their researches in institutional digital repositories or subject-specific digital repositories.

Some recent studies conducted on universities reveal that librarians' awareness of the open access issues is high and that they perform open access activities (Hood, 2007; Palmer, Dill and Christie, 2009; Greyson, Vézina, Morrison, Taylor and Black, 2009; Mullen, 2010). These findings indicate that librarians support the open access principles and actively work to integrate the open access resources with their libraries and library literature (Greyson et al, 2009, p.3). The initial studies performed in Turkey on open access were conducted by Information and Document Management departments. For example, today two projects financed by the European Union are managed by librarians, and there is a librarian movement within the Open Access Working Group of ANKOS Consortium started in 2006. In Turkey the open access movement was started and developed by rather university librarians than researchers. Examples of the projects in question include Project Medoanet led by Hacettepe University to develop open air policies at national level, and Project OpenAIRE Plus led by Izmir High Technology Institute to support the infrastructure needed to establish institutional archives and data archives.

These developments mean many disciplines including librarianship turn into professions requiring new knowledge and skills in parallel with, and in some cases even due to, informatics technology. Now the librarians need to improve themselves, ensure the institutions employing them to adopt the concept of open access for all user groups, and to make open access available to say groups, and to help said groups to use the relevant applications. This means in addition to said new knowledge and skills, the libraries of universities extend to new service fields.

University Libraries of the 21st Century

Wissema call today's universities third generation universities and defines them as institutions where interdisciplinary researches would be prominent, joint projects would be developed, and products would be designed and produced to make them cradle of economic activities (Wissema, 2009). In this context, the expectations the second generation universities failed to meet i.e. entrepreneurship and close cooperation with industrial companies are now expectations from the third generation universities. The author comments that creation of value and transfer of information to the public are the distinguishing properties of new generation universities.

Since libraries are the most important supporter of the research and development works performed at universities and provide information services to support the visions and missions of the universities they serve, they are undergoing transformation together with the third generation universities (Gürdal, 2012). These new generation university libraries provide users with a more efficient content containing customer-centered, service-oriented websites and mobile websites custom-designed for the needs of their specific users, and allow their users to gain access to the information they needed without getting lost in the websites and without requiring them to take unnecessary steps.

It takes an information literacy person who is aware of his/her need of information and who can express his/her needs clearly and correctly, well stored and cross-referenced information, information access systems supported by information technologies that make such access possible, a system manager to whom the user can apply to receive guidance and advice, and an information specialist/librarian to apply the information access process (Keten, 2012, p. 488). In order to be able to create the information environment they are

expected to provide and to continue providing information access services in an efficient and uninterrupted way, third generation universities need to render services and to monitor innovations made in the scholarly communication processes in cooperation with their respective libraries. In making such cooperation, they should remember that efficient use of their research output as reference for other researches is a must for scholarly communication. Interdisciplinary researches and entrepreneurship can be supported, information can be made available to the public, and value-added can be created only by using an infrastructure allowing the information produced by scholars to be shared through various channels and by removing the obstacles hindering scholarly communication defined as a scholarly information network. As to the obstacles mentioned above, the most important one is the lack of free access to scholarly information produced. In this context, serious tasks fall on the university librarians' shoulder in terms of planning the necessary strategies, raising awareness of this issue, and providing the necessary application environment.

Open access sharing of academic studies will make them more visible and recognizable, and help new researches to enjoy higher financial support from the public and private sectors. Therefore, the universities need to establish an open access mechanism through which they would be able to disseminate their academic studies to masses as large as possible, and an open access depository to provide the above mentioned services. University libraries, on the other hand, play a strategic role in compiling in suitable formats the studies conducted by their academicians, storing said data in the long run, making them available to the public for access as wide as possible.

Changing Roles of Librarians, the Skills They Must Possess

The support given to open access initiatives leads to new service fields in the libraries and impose new roles on them. The open access movement led to new opportunities, and it is understood that open access can only be improved through the expertise of the librarians (Gordon, 2011, p.167). The librarians' awareness of this fact imposes new responsibilities on them for scholarly communication, scholarly circles, national and international platforms, and institutions and libraries they work for. And the tasks they undertake to fulfill said responsibility define their changing roles. Their position as a bridge between various persons and institutions like scholars, publishers, sponsors, etc. in scholar communication processes requires them to improve their professional knowledge and skills. Therefore, this study now tries to describe the changing roles of the university librarians and the skills they must improve/develop to play those roles as follows.

Studies conducted on university librarians' attitude on open access indicate that they find it important to provide training for academicians and management executives of their universities on open access and copyright (Dill and Palmer, 2007; Mullen, 2010, p.34; Gordon, 2011, p.165; Harris, 2012, p.9). Librarians aim to enjoy prominence as trainers and advisors, but publishers who comprise the other group affected from open access initiatives impose different roles on librarians. Not only publishers but also the scholarly communication process itself, under the influence of changing publishing models, shape the librarians' new roles in the open access world. For example, one of the new responsibilities imposed on librarians is to support new formations designed to remove the obstacles preventing scholarly information from spreading. Institutional digital repositories need to be established and improved because of the important role they play in terms of increasing scholarly publications' visibility and researchers' and institutions' prestige, so that this need make librarians a major part of the scholarly communication chain.

Expectations of the publishers should be evaluated as a different group, because the librarians' expectations are different from those of university publishing houses and other publishers. In their paper Richard, Koufogiannakis and Ryan (2009) define the roles which the librarians should play to help and support open access publications in universities as broad as converting the existing collections into digital medium, creating new digital collections, providing guidance and advising services on open access publications, and managing open access publication activities performed in universities. Mullen (2010, p.68) points out that librarians specialized in open access can provide editing teams of open access journal publications made by university libraries. According to the author, such librarians can ensure open access journals to be included in special indexes, databases and open access directories to increase their visibility and reliability.

However, representatives of many publishers have issued a considerable number of articles on the roles imposed by open access on librarians (Mullen, 2010, p.75). In his article on cooperation between librarians and journal publishers and librarians' opinions about the future, Campbell (2004, pp.11-13) emphasizes that as it was in the subscription system's transition from printed journals to electronic journals, these parties should cooperate too for developing patterns for provision and sharing of digital contents. Mullen (2010, p.76) supports this view. According to the author, the relation between the publishers and the librarians is now more important due to open

access, and the librarians now create new environments to cooperate with publishers and suppliers for development of business relations and data sharing services. Woodward made a presentation about improvement of the cooperation between librarians and publishers in the Publishers Licensing Society annual meeting 2012 to describe various works performed in connection with open access, development of new business models, setting common standards, archiving operations, management of digital rights, and various other works performed in cooperation with publishers.

As mentioned above, institutional digital repositories too are used for supporting the open access. Therefore suitable roles should be determined for librarians in creating, improving and maintaining institutional digital repositories, and briefing the researchers accordingly. An efficient institutional digital repository has unlimited potential to support the librarians' new roles in e-science and improvement of data and to control a university's scholarly output. Institutional digital repositories and librarians who are in charge of them should be integrated with the collections available and with the information services provided, so that the whole community will be able to consider the institutional digital repository an important and dynamic part of the library (Mullen, 2010, pp.118-199).

The functions of institutional digital repositories are not limited to sharing their scholarly output with the world, increasing the visibility of, references to and cooperation between academicians and institutions, development of digital educational materials, or preservation of an institution's cultural heritage. They also enable institutional research and production activities to be measured. Therefore, librarians who undertake responsibility for developing a policy for institutional digital repositories, improving their contents and managing them play a role in measuring the impact of digital science. Roemer and Borchardt (2012, p.596) comment that librarians play an increasingly prominent role together with academicians for such traditional metrics as h-index and journal impact factors, and for such newly invented web-based alternaties as altmetrics, cybermetrics or webometrics on which they debate to obtain evidence on the changing scholarly values.

In parallel with open access, developments realized in the scholarly communication process require the libraries to change every aspect of the information services provided by the libraries. Furthermore, trainings provided by librarians to users are affected from said developments. Mullen (2010, p.173-174) comments that training courses taught to improve the library utilization skills should be renewed and that new scholarly communication models should be added in said training courses. The emergence of open access resources requires to reshape the content of the training courses to be taught by librarians on information literacy. Said information literacy training courses are expected to leave their traditionalism behind and to add in their itinerary not only the subscribed resources, but also reliable information resources available through open access and how to use said resources. As part of this expansion, librarians should be included in the training process of their respective institutions, cooperate with academicians to support them for the training courses, and monitor and support the innovations made in online education media in the worldwide.

Developments happening in connection with the open access movement not only impose new roles on librarians but also put them in a position of meeting the expectations for improvement of the present information services. A study conducted by INTECH in June 2012 on the librarians' roles as changed by the open access movement sheds light on said expectations. Assessing the results of a poll conducted with 156 librarians, this study defines the responsibilities which librarians are expected to fulfill as a major player in the open access movement as follows (Assessing the role…, 2012):

- Being integrating with the community of researchers
- Developing search and distribution tools creating value-added
- Making more efficient and improving the institution's in-house cooperation
- Creating reliable information environments
- Developing research and search skills
- Supporting authors for their rights on publication alternatives and contracts
- Creating and managing metadata
- Playing a more active role in compiling and distributing collection contents
- Focusing on promoting the institution's scholarly output in the worldwide

To survive in this ever-changing and ever-improving open access world, librarians should improve themselves in professional terms to fall in step with said changes, and the works they perform should be supported to create and maintain an efficient scholarly communication environment in their libraries. These requirements cannot be fulfilled by personal effort. Therefore, all of the information and document management departments, library management executives and librarians in charge of scholarly communication should be made responsible to

fulfill said requirements. Mercer (2011, p. 451) describes the measures which must be taken for the above mentioned purposes as follows:

- Developing master's degree programs for Information and document Management; adding the institutional repository, open access, copyright, fair use etc. subjects in said programs
- Arranging training courses on scholarly communication in university libraries on a permanent basis
- Providing academicians with digital repository services
- Playing an active role in the change process which the scholarly publication system undergoes
- Obtaining support from management executives and relevant committees for open access.

It is understood that in order to ensure the open access movement to be sustainable and to provide maximum benefit, all the individuals involved in it should be as dynamic, interactive and progressive as the movement itself. In this context, librarians should have the basic professional training and qualifications they need to monitor, understand and apply the innovations made in the open access movement, and develop a number of various skills.

Harris (2012, p.11) emphasizes that communication skills are very important in terms of the open access movement. It is frequently observed that some academicians has the tendency to ignore the open access movement because of their refusal of it. To explain this notion, ensure regular sharing of information and provide an efficient communication medium, librarians should speak the same language as users. Another important subject for communicating about the open access is the relations. The strongest asset of librarians is their relations with all the other departments of that institution. Librarians should keep their relations with all the parties involved in the scholarly communication process (academicians, publishers, sponsors, data process teams, etc.) at high level and warm.

The poll conducted by Cassella (2012) on the skills which management executives of digital repositories should have indicated that the communication skill tops the list. The author explains that the skill in question is needed for promoting the repository and communicating with academicians, management executives and top management. The author lists the other major skills as follows:

- Management of copyright
- Specialty in collection development and metadata
- Planning project management, teamwork and workflow activities
- Technical skills for the standards and protocols necessary for teamwork

Conclusion

Librarianship is a profession requiring monitoring the changes and developments of technology and scholarly communication processes in all ages. Furthermore, the open access movement opens the door of a brand new world to us librarians in a national and international platform. All we have to do to grab this opportunity is not to remain outside the scholarly communication process, and to improve our knowledge and skills which would connect our present specialties with the multidirectional works being performed in the open access field.

Apart from awareness-raising, university librarians are expected to be influential in the protection of the intellectual heritage of the organization, in the delivery of outputs created as a result of scientific activity as well as in increasing the visibility and the impact of these outcomes, in the creation of institutional repositories allowing the management and the measurement of research and teaching activities to make strategic planning, and in achieving the sustainability of these improvements within their affiliated institutions. This high expectation requires familiarizing university researchers with open access publishing as well as protecting the rights of authors. Therefore, in order to liaise with researches about open access resources, university librarians themselves need to be knowledgeable about open access publishing and about the rights of the author, who may publish their scientific work in open access journals or deposit in open access digital archives.

The sustainability of an open access institutional repository and its long-term maintenance is as important as creating one. University librarians are expected to be a leader in the identification of different archiving solutions, selecting and evaluating the most appropriate ones, and also in the stages of implementing the framework. Additionally, determining solutions and methods in the process of archiving, creating metadata, enriching the content are among the responsibilities that the university librarians should undertake.

A specialization in the analysis of bibliometric analysis is essential for the future of the Open Access movement. Bibliometric analysis is essential in the understanding of the scientific potential of the university, the determination of the objectives for future projections and for the measurement of predictions.

The Open Access movement in the universities is important for students as well as senior management, faculty members and librarians. It should particularly open to post-graduate students so they may benefit from

open access resources and further their academic careers with open access publishing models. Open access should be covered widely in information literacy training programs given to the students.

While the open access movement expands the competence areas of university librarians, it also encourages the acquisition of new knowledge and skills in addition to those acquired through conventional degrees. Open access has re-defined the responsibilities of university librarians as well as creating new areas of expertise. By embracing these new responsibilities librarians can upgrade their skills and it reveals the importance of the role undertaken to meet social expectations as much as institutional ones.

All this brings the university library world much closer to the research environment. This is the point where the reader, creator and provider are connected, which can increase the impact of a research project before finally re-using the information in the cycle. It is a particularly worthwhile because lowering the barriers to enriching scientific discourse in cooperation with faculty members is at the heart of the open access movement. Because open access

References

Assessing the Role of Librarians in an Open Access World, prepared by TBI Communications on behalf of InTech. Retrieved September 10, 2012 from http://www.intechopen.com/js/ckeditor/kcfinder/upload/files/Role%20of%20the%20Librarian_Survey_Findings_Jun12.pdf.

Björk, B.-C., Welling, P., Laakso, M., Majlender, P., Hedlund, T., & Gudnason, G. (2010). Open access to the scientific journal literature: Situation 2009 (E. Scalas, Ed.). *PloS One*, *5*(6), e11273. Retrieved December 01, 2012 from http://dx.plos.org/10.1371/journal.pone.0011273.

Campbell, R. (2004). Libraries: Do they have a future in academia - or only a past? *Serials: The Journal for the Serials Community*, *17*(1), 9-13. December 01, 2012 from http://uksg.metapress.com/content/j9kdw0mqy3eljmbq/fulltext.pdf.

Cassella, M. (2012). Fostering new roles for librarians: Skills set for repository managers-results of a survey in Italy. *Liber Quarterly: The Journal of the Association of European Research Libraries*, *21*(3/4). Retrieved December 01, 2012 from http://liber.library.uu.nl/index.php/lq/article/view/8033/8396.

Dill, E., & Palmer, K. L. (2007). *Survey of librarian attitudes about open access*. Retrieved, December 01, 2012 from https://scholarworks.iupui.edu/bitstream/handle/1805/1113/PKP-kpedits03.pdf?sequence=1.

Gargouri, Y., Hajjem, C., Larivière, V., Gingras, Y., Carr, L., Brody, T., & Harnad, S. (2010). Self-selected or mandated, open access increases citation impact for higher quality research. (R. P. Futrelle, Ed.) *PloS One*, *5*(10), e13636. doi:10.1371/journal.pone.0013636.

Gordon, S. (2011). Why librarians aren't dead: Open access and the evolving liaison role. *Journal of the Canadian Health Libraries Association*. *32*, 165-167.

Greyson, D., Vézina, K., Morrison, H., Taylor, D., & Black, C. (2009). University supports for open access: A Canadian national survey. *Canadian Journal of Higher Education*, *39*(3), 1-32.

Gürdal, G. (2012). *3. Kuşak üniversiteler, kütüphaneleri ve kütüphanecileri*. Retrieved December 01, 2012 from http://eresearch.ozyegin.edu.tr/xmlui/bitstream/handle/10679/169/3.%20%20kusak%20universite%20kutuphane%20ve%20kutuphanecileri.pdf?sequence=1.

Harris, S. (2012). *Moving towards an open access future: The role of academic libraries*. Retrieved September 15, 2012 from URN:NBN:NL:UI:10-1-113637.

Hood, A. (2007). *Open access resources*. DC: Association of Research Libraries.

Keten, B. (2012). Bilgi erişim sürecinin problem çözme ve karar verme üzerindeki etkisi: Kuramsal bir çalışma. *Türk Kütüphaneciliği*, *26*(3), 476-500.

Mercer, H. (2011). Almost halfway there: An analysis of the open access behaviors of academic librarians. *College & Research Libraries*, *72*(5), 443-453.

Mullen, L. B. (2010). *Open access and its practical impact on the work of academic librarians*. Oxford: Chandos Publishing.

Palmer, K. L., Dill, E., & Christie, C. (2009). Where there's a will there's a way? Survey of academic librarian attitudes about open access. *College & Research Libraries*, *70*(4), 315-335.

Richard, J., Koufogiannakis, D., & Ryan, P. (2009). Librarians and libraries supporting open access. *Canadian Journal of Higher Education*, *39*(3), 33-48.

Roemer, R. C., & Borchardt, R. (2012). From bibliometrics to altmetrics: A changing scholarly landscape. *College & Research Libraries News*, *73*(10), 596-600.

Wissema, J. G. (2009). *Üçüncü kuşak üniversitelere doğru: geçiş döneminde üniversiteleri yönetmek* (N. Devrim & T. Belge, Trans.). İstanbul: Özyeğin Üniversitesi Yayınları.

Woodward, H. (2012). Enhancing collaboration between publishers and librarians. *PLS Annual Conference*. Retrieved December 01, 2012 from http://www.pls.org.uk/news/Pages/Hazel%20Woodward%20presentation%20for%20PLS%20Open%20Meeting.pdf.

The Comparison of Natural Scientists' and Social Scientists' Research Data Practices: Data Sharing and Preservation

Arsev Umur Aydinoglu
NASA Astrobiology Institute, NASA Ames Research Center, USA. Email: arsevu@gmail.com

Lei Wu
Terra Technology, Norwalk, USA. Email: leiwu77@gmail.com

Abstract: *This study compares the research data practices and perceptions of data sharing by researchers in natural sciences and social sciences. An online survey was distributed worldwide and received over 1000 responses. The findings reveal that natural scientists, compared to social scientists, demonstrate more willingness, more participation, and higher awareness in data sharing and related issues (using metadata, willing to share their data, making their data easily accessible). The reasons for not making data electronically available and the conditions for exchanging data with other scientists differ as well. These differences suggest the need for different policies to encourage data sharing, different educational and training needs, and different cyberinfrastructure designs for these two broad groups. This is especially important in interdisciplinary fields where two groups collaborate on projects such as climate change, sustainability, energy issues, etc.*

Keywords: *Research data practices, data sharing, data preservation, natural sciences, social sciences.*

Introduction

Different disciplines have different workflows; therefore, their research data practices and perceptions might differ. The purpose of this study is to advance our understanding of the differences of research data practices between natural and social sciences. The benefits are assessing the current situation in scientific data management, improving data sharing system developers understanding of data cultures so that they can design better systems, and identifying whether different training methods are needed for different disciplines.

Background

Data Management

The benefits of data sharing and data reuse, and the importance of data preservation is well documented (Arzberger et al., 2004; ESF, 2007; ICPSR, 2009; NSF, 2008; PARSE Insight, 2009; Sieber, 1991). However, in reality many scientists' data practices are 'poor' at best and the barriers are "deeply rooted in the practices and culture of research process" (PARSE Insight, 2009; Tenopir et al., 2011a).

Natural vs. Social Sciences

According to Ledoux (2002) "Natural sciences are defined as disciplines that deal only with natural events (i.e., independent and dependent variables in nature) using scientific methods" whereas social sciences "deal with people issues" or they study the individual and the society. As the culture differs among disciplines so does the attitude towards data sharing.

In natural sciences, for instance, some disciplines are more open to sharing such as geophysics, biodiversity, and astronomy (Nelson, 2009) or atmospheric science (Tenopir et al, 2011a). Sharing data benefits the owner of the data. For instance, a study about cancer research data done by Piwovar, Day, & Fridsma (2007) revealed that the availability of data is correlated with increased citation rate regardless of journal impact factor, date of publication, and author country of origin. However, despite the benefits (to scholars, to science, and thus to society), there are many barriers to data sharing. For instance, because of competition among scientists and logistical barriers (such as proprietary concerns and data compatibility) in environmental sciences and ecology, scientists withhold their data (Palmer et al., 2004; Allard & Aydinoglu, 2012). A study on data management in genetics and life sciences suggests an inverse relationship with the effort to collect data and tendency to share it (Campbell & Bendavid, 2003). Allard and Aydinoglu's study (2012) supports the same finding.

On the social sciences side, Ceci (1998) reports two anecdotes (one from sociology and one from psychology) in which the researchers failed to access data of the previous research done by other scholars in a number of cases. There are two reasons why researchers do not want to share: i) the original researchers do not want to lose their competitive edge by sharing their data; ii) the human subjects agreements made with the subjects prevent sharing the data. Ceci's (1998) study also reveals an interesting finding on data sharing in social sciences similar to Campbell & Bendavid's (2003) study in genetics. When subjects were directly asked, they expressed the socially desirable answer "I share my data." However, when they were asked about their colleagues, they replied "Dr. X does not share his/her data." This might indicate a survey bias, but a gap between scientists' attitudes and their actions on data sharing was identified. Sieber's (1991) findings confirm different attitudes towards data sharing in different disciplines. Moreover, it states that some scholars are uninformed, unconcerned, and even unconvinced of the benefits of data sharing, and thus they do not share and fail to train their students about it.

The barriers to data sharing seem to be similar in many cases in both fields: avoiding competition, unaware of benefits, issues of data compatibility, etc. In addition, the proprietary of data is more of an issue in social sciences. However, there is not an empirical study that compares the practices and scientists' perceptions between natural and social sciences. This study fills this gap by answering, "What are the differences between natural scientists and social scientists regarding data practices and perceptions of data sharing?" The findings are important for interdisciplinary projects where natural and social scientists have to collaborate as the data behaviors will be different.

Methodology

Data in this study comes from an online survey done as part of the DataONE project. DataONE is a National Science Foundation funded cyberinfrastructure project that aims to ensure access and preservation of earth science data (DataONE, 2011). For this end, a series of stakeholder assessments have been conducted. Our study uses the dataset collected for the assessment of scientists' data practices and perceptions (Tenopir et al., 2011b). The survey instrument designed to investigate data practices and attitudes towards sharing and preservation. The investigators estimated that the survey link reached approximately15, 000 people, 1329 of which replied to at least one question (response rate ~9%). A subset of the original dataset was used for this study with a sample size of 1051. Researchers extracted the responses from scientists in natural (biology, ecology, geology, environmental sciences, etc.) and social (psychology, education, information science, etc.) science fields. Descriptive analysis and chi-square tests were performed on the dataset to answer the research question. The results are reported in the questions that are found to be statistically different between natural and social sciences only. For the survey instrument, and complete results of the survey, please refer to the article by Tenopir et al. [2011a]. The dataset is available in Dryad Digital Repository (Tenopir et al., 2011b).

Results

The average age of respondents is 44.5, with 66% (n=664) of them male. In natural science field, the top three disciplines of most respondents reported are ecology (28%, n=237), environmental sciences (23%, n=198), and biology (21%, n=181). In social science field, the top three disciplines are other social science programs (52%, n=105), education (19%, n=39), and information science (13%, n=26). Most of the respondents are from North America (74%, n=755) and Europe (14%, n=135).

Data Sharing Practices

The first question concerned scientists' use of metadata standards. Respondents were asked to check all metadata standards they currently used from a list. Natural and social scientists did not show great differences in using a particular metadata standard; however, there were significant differences between social and natural scientists in following three answers: "metadata standardized within my lab," "none," and any "other" metadata standards (Table 1). The red flag here is that three quarters of social scientists (75%) and close to half (44%) of natural scientists do not use any metadata standard.

Table 1. Metadata standard

	Within my lab	None	Others[a]
Social Science	7% (14)	75% (150)	13% (27)
Natural Science	25% (213)	44% (374)	34% (288)
$\chi 2$	31.43**	60.99**	32.39**

[a]Other; combined answers from a list of eight metadata standards
**$p < .001$

Scientists in natural sciences are more likely to use their own lab metadata standard or any other metadata than those in social sciences. Social scientists generally do not work in a lab setting; therefore, it explains the relative low usage of lab-created metadata for them. The results indicate that metadata use is a more common practice in natural science than in social science. However, scientists in natural science tend to use self-developed metadata standards (created within their lab) rather than an established metadata standard.

Another metadata-related question asked respondents' satisfaction with the tools for preparing metadata. Significant differences in satisfaction are identified ($\chi 2 = 16.58$, $p < .01$). Scientists in social science were less satisfied (18%) with metadata tools than scientists in natural science (27%). In addition, more social scientists (54%), (compared to 38% in natural science), showed a neutral attitude toward metadata tools. Combining the results from these two questions, it seems that scientists' low usage of metadata standards may be related to their low satisfaction of metadata tools. It certainly cannot exclude the possibility that some may not be aware of the benefits of using metadata or even not be familiar with the concept of metadata

Respondents were also asked if they share data with others and if others can access their data easily. Scientists in natural sciences are more likely to share data and make their own data easily accessible than are social scientists (Table 2). However, one should note that a gap exists in scientists' responses: over half of respondents in both fields shared data with others, but less than half of them believe their data can be accessed easily. One possible explanation for this gap is that scientists do share data or are willing to share, but scientists may put constraints on others to obtain the data, such as sharing data on request rather than providing it in open access.

Table 2. Data sharing practices

	Social Science	Natural Science	χ^2
Share my data with others (agree[a])	58% (114)	82% (681)	57.49***
Others can access my data easily (agree[a])	23% (46)	41% (340)	35.57***

[a]Agree: combined answers "agree strongly" and "agree",
***$p < .001$,

the chi-square test is performed on the comparison on 5-point Likert scale: Agree strongly (1) to Disagree strongly (5).

Respondents reported many reasons why they are not sharing their data electronically. The top three reasons by social scientists are "insufficient time," "do not have rights to make data public," and "lack of funding." For natural scientists, the most frequent barriers are "insufficient time," "lack of funding," and "no place to put data." Statistical tests showed that scientists in social and natural sciences had different concerns for not making their data electronically available to others (Table 3).

Table 3. Reasons for not making data electronically available

	Social Science	Natural Science	χ^2
Do not need data	20% (40)	11% (96)	10.69**
Insufficient time	39% (78)	49% (423)	7.83**
Should not be available	18% (37)	11% (92)	8.68**
No rights to make data public	31% (63)	16% (135)	25.41***

** $p < .01$, ***$p < .001$.

Respondents in social sciences, compared to those in natural sciences, are more concerned that the data is not needed, or should not or cannot be made available to others. On the other hand, scientists in natural sciences were more worried about insufficient time to make data available. Social scientists' reasons for not making their data available to others are more often about the data itself, but natural scientists' concern is more about the resources that support data sharing.

Attitudes and Opinions

Generally, most respondents in both fields are willing to share part of their data through central repositories and to other researchers. Scientists in natural sciences show more desire to share their data partially (82% vs. 72%) or fully (46% vs. 32%), and are more willing to provide data to other researchers who may use the data in different ways (85% vs. 79%).

Along with their willingness to share data, scientists also provided their conditions to data sharing. Respondents indicated their willingness to share under a total of 12 conditions. "Formal citation" and "formal acknowledgement" of the data providers and/or funding agency are considered to be most important condition for both groups (~95%). However, statistical tests showed scientists' concerns about data sharing conditions differed in the following four perspectives (Table 4). Scientists in natural sciences are more willing to share data when they have an opportunity to collaborate, and when those who use their data provide them the results and reprints of articles that use their data. The possible explanation for this result is the collaborative culture of many natural sciences. Social scientists, on the other hand, are more concerned about legal matters related to data sharing and reuse. One reason might be that social sciences have more research involving human subjects.

Table 4. Conditions on data sharing

	Social Science	**Natural Science**	χ^2
Opportunity to collaborate	72% (140)	82% (650)	9.15**
Data provider review the results & make suggestions	55% (104)	63% (493)	4.63*
Provide reprints of the article to data provider	64% (122)	73% (576)	5.48*
Obtain legal permission for data use	55% (105)	39% (303)	17.27***

* $p < .05$, ** $p < .01$, *** $p < .001$.

Discussion

This study compares attitudes towards and practices of data between scientists in the social and natural science fields. The findings indicate that scientists in natural sciences demonstrate more willingness to share and more participation in data sharing than those in social sciences. In addition, scientists in these two areas reveal different concerns about sharing data and different conditions that should be met in order to share their data.

Findings regarding metadata issues reveal the problem of low usage of metadata standards and low satisfaction of current metadata tools. Social scientists, who responded to this survey, particularly do not use metadata standards to describe their data. There might be many reasons for this that has not been explored in this study. The conversion between metadata standards is a problem as well. This is an issue especially in natural sciences where researchers develop their own metadata standards. System developers and initiatives addressing data sharing and long-term preservation issues need to take the issue into account. Any data repository system may need to include some features to support metadata description and develop easy metadata tools for scientists. In addition, educational programs, training, and workshops about metadata can offer scientists the knowledge and skills to increase their awareness of benefits of using metadata and motivate them to use metadata standards to describe their data.

Results show gaps between scientists' willingness to share data, their practices of sharing data, and their acknowledgment that it is not easy to access their data. The discrepancy between the current practice (not sharing) and the attitude/perception (not easily accessible & having restrictions) may be explained by scientists' consideration of different conditions to share data. For both groups, scientists are concerned about formal citation and formal acknowledgement of the data provider. Furthermore, social scientists are concerned about legal permission to use their data, whereas scientists in natural sciences care more about future collaboration. The focus on collaboration might be caused by the culture of collaborative work in many natural sciences. 'Big science' or 'megascience' projects and hyper-authorship, where an article has more than 100 authors, are common in many natural sciences -which foster a collaborative culture. Another reason for the identified gaps may be scientists' lack of knowledge about how to share their data or lack of tools and facilities. However, current study does not examine the particular reasons for the discrepancies. A future study can re-examine and identify the gaps as well as investigate the possible reasons to provide a more detailed description of data sharing issues in scientific community.

The results also indicate that scientists expect some form of compensation for sharing data. Policies that compensate scientists who share data might reduce the reluctance for effective data sharing. Developers of repository systems need to incorporate scientists' concerns (competition, recognition, rewards, etc.) into the design. The system can provide features to protect data providers' rights, such as automatically creating citation links for datasets and allowing time embargos. Further, a repository system targeted to different scientific fields should make attempts to address the issues and provide solutions for these fields.

Scientists in natural sciences expressed that "no place to put data" is the main reason for not sharing data. Initiatives such as the DataNet Partners can be of help by providing robust, accessible, and secure cyberinfrastructure and training on metadata issues. In addition, this is a chance for the involvement of libraries in the data sharing and preservation practices. Libraries can provide a central repository system at a university level so that scientists can deposit their own data and have the access to data from other researchers within or beyond their disciplines.

Regarding the barriers to data sharing, the findings suggest that social scientists are more concerned about data availability, whereas natural scientists are concerned more about the resources that support data sharing. This finding might be related to the fact that the social scientists collect and generate data from individuals mostly through surveys, interviews, or observations; on the other hand, natural scientists require the involvement of instrumentation to collect data (microscope, telescope, etc.) most of the time. Data collection methods may have impact on how data is going to be shared; however, more research (preferably qualitative) is needed to probe this issue.

Scientists in both fields also reported "insufficient time" as a barrier to data sharing. Repository systems that make data sharing quick and easy may help in this situation. Some existing or ongoing large-scale projects such as DataONE can serve as a repository system to promote data sharing in scientific communities.

In conclusion, the findings reveal significant differences between natural and social scientists in metadata issues, data sharing practices, perceptions of barriers to data sharing, attitudes towards data sharing, and conditions to sharing data. Although natural scientists, comparing to social scientists, are showing more awareness, more willingness, and more active participation in data sharing practice issues; there is room for growth in both fields. This research is valuable to initiatives in which natural and social scientists collaborate on multi- and interdisciplinary projects such as DataONE that address data sharing and long-term preservation issues by assessing the current conditions. The differences between social scientists and natural scientists suggest that different approaches are required by policy makers, system developers, and educators in dealing with the data sharing needs of different audiences.

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References

Allard, S. & Aydinoglu, A.U. (2012). Environmental researchers' data practices: An exploratory study in Turkey. In Kurbanoglu, S., Al, U., Erdogan, P.L., Ucak, N. (Eds.). *E-Science and Information Management*. Paper presented at the Third International Symposium on Information Management in a Changing World, IMCW 2012, Ankara, Turkey, Sep. 19-21, 2012 (pp. 13-24).

Arzberger P, Schroeder P, Beaulieu A, Bowker G, Casey K, Laaksonen L, Moorman D, Uhlir P, & Wouters P. (2004) Promoting access to public research data for scientific, economic, and social development. *Data Science Journal, 3*, 135-53.

Campbell, E.G. & Bendavid, E. (2003). Data-sharing and data-withholding in genetics and the life sciences: Results of a national survey of technology transfer officers. *Journal of Health Care Law Policy, 6,* 241-55.

Ceci, S.J. (1998). Scientists' attitudes toward data sharing. *Science, Technology, & Human Values, 13*, 45-52.

DataONE. (2011). *DataONE*. Retrieved on May 2011 from https://doc.dataone.org

European Science Foundation. (2007). *Shared responsibilities in sharing research data: Policies and partnerships*. Retrieved on April 2011 from http://www.esf.org/index.php?eID=tx_nawsecuredl&u=0&file=fileadmin/be_user/CEO_Unit/Science_Policy/Sharing_Data/ESF_DOC_SHARINGDATA_V01ppp.pdf&t=1287487773&hash=89d4ad56d3544ba3edb68c1683369ed4

Inter-University Consortium for Political and Social Research. (2009). *Guide to social science data preparation and archiving: Best practice throughout the data life cycle.* Ann Arbor: University of Michigan. Retrieved on December 2010 from: http://www.icpsr.umich.edu/files/ICPSR/access/dataprep.pdf

Ledoux. (2002). Defining natural sciences. *Behaviorology Today, 5*, 34-6.

National Science Foundation, Office of Cyberinfrastructure Directorate for Computer & Information Science & Engineering. (2008). *Sustainable digital data preservation and access network partners (DataNet) program solicitation - NSF 07-601*. Retrieved on September 2010 from http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503141

Nelson, B. (2009). Empty archives. *Nature, 461*, 160-3.

Palmer, M.E., Bernhardt, E. Chornesky, S. Collins, A. Dobson, C. Duke, B. Gold, R. Jacobson, S. Kingsland, R. Kranz, M. Mappin, M. Martinez, F. Micheli, J. Morse, M. Pace, M. Pascual, S. Palumbi, OJ Reichman, A. Townsend, & M. Turner. (2004). *Ecology for a Crowded Planet. Ecological Science and Sustainability for a Crowded Planet: 21st Century Vision and Action Plan for the Ecological Society of America*. Retrieved on April 2011 from http://www.bioplatform.info/archive/EcologicalVisionsReport.pdf

PARSE Insight. (2009). *PARSE insight.* Retrieved on December 2010 fromhttp://www.parse-insight.eu/downloads/PARSE-Insight_D3-4_SurveyReport_final_hq.pdf

Piwowar, H.A., Day, R.S., & Fridsma, D.B. (2007). Sharing detailed research data is associated with increased citation rate. *PLoS ONE 2(3*), e308. doi:10.1371/journal.pone.0000308

Sieber, J.E. (1991). Openness in the social sciences: Sharing data. *Ethics & Behavior, 2*, 69-86.

Tenopir, C., Allard, S., Douglass, K., Aydinoglu, A.U., Wu, L., Read, E., Manoff, M., & Frame, M. (2011a). Data sharing by scientists: Practices and perceptions. *PLoS ONE, 6*(6), e21101. doi:10.1371/journal.pone.0021101.

Tenopir, C., Allard, S., Douglass, K., Aydinoglu, A.U., Wu, L., Read, E., Manoff, M., & Frame, M. (2011b). *Data sharing by scientists: Practices and perceptions*. Dryad Digital Repository. doi:10.5061/dryad.6t94p

Libraries as Centers for Science Literacy and Public Science

Todd Suomela
University of Tennessee, Knoxville, TN, USA, tsuomela@utk.edu

Suzie Allard
University of Tennessee, Knoxville, TN, USA, sallard@utk.edu

Abstract: *Libraries are in a unique position to promote greater information and scientific literacy by partnering with recent developments in citizen science and public participation in scientific research. Information literacy has been a long-term goal of information science and library professionals for the past 40 years, while scientific literacy has become more important to informed decision making and citizenship. At the same time, numerous citizen science projects have been started in the last 15 years to engage non-scientists with the scientific research community. Together these three developments offer a new opportunity for libraries to expand their mission and integration with the community. The role of libraries as potential help for citizen science, barriers to such help, and future opportunities will be discussed in this paper.*

Keywords: *Citizen science, information literacy, science literacy, public science, public engagement, future of libraries.*

Libraries and the Importance of Literacy

Information literacy is defined as the ability of a person "to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (ACRL, 1989). While the library community's recognition of the importance of information literacy has been growing over the last forty years (Rader, 2002), the importance of information literacy to America and the rest of the world was specifically noted by the Association of College and Research Libraries (ACRL) more than two decades ago (ACRL, 1989). This report acknowledged that rapid changes in technology and computers could threaten access to, and understanding of, information throughout society and that promoting information literacy would be crucial to the sustainability of citizenship and democracy.

Since the ACRL report a large body of academic literature on information literacy has developed among librarians and technologists. Other terms such as computer literacy, digital literacy, technological literacy, and ICT literacy cover similar areas of concern (Pinto, Cordon, & Diaz, 2010). The global extent of this research has also been growing, international conferences have been held around the world, and the number of publications on the topic has also increased in Eastern Europe, Russia, and China (Rader, 2002).

Science literacy has long been recognized as an important aspect of living in the modern world. Citizens throughout the world are affected by scientific debates and decision making (Irwin, 1995). The concept of science literacy has evolved over the past twenty years away from a view of the public as blank vessels to be filled with scientific understanding toward a greater emphasis upon engagement and public understanding (Feinstein, 2011). Encouraging engagement with the public is strength of public libraries and the new concept of science literacy suggests that libraries and librarians have a unique opportunity to serve as a community "anchor" for the promotion of science literacy.

Librarians, technologists, and educators recognize the importance of information literacy to help improve their own services and to improve society as a whole. Furthermore, many of the challenges of the twenty-first century throughout the world are based upon science and technology, especially with the global environment (Omenn, 2006). These grand challenges do not stop at borders defined by men but instead belong to systems that affect everyone on Earth. Libraries are in a unique position to promote the literacies needed to understand these challenges (National Science Foundation (U. S.), 2009).

Libraries are already a crucial component in various literacy campaigns. Libraries provide literacy resources to people in the form of reference works, journals, and books; giving patrons the freedom to pursue their own interests - whether it be for jobs or hobbies. Adding scientific and data literacy to these existing programs is both an opportunity and an obligation in order for libraries to improve their services in a rapidly evolving technological landscape and to increase their visibility in an information environment that sees people relying less on librarians as intermediaries as they access information directly from the web. New skills for managing the data deluge need to be taught to students (Carlson, Fosmire, Miller, & Nelson, 2011) and information literacy needs to be integrated into the curriculum (Grafstein, 2002).

Citizen Science and Literacy

Citizen science provides individuals with an opportunity to interact with and change policy at a number of levels. Environmental monitoring programs have been used by concerned groups to affect U.S. government policy (Nerbonne & Nelson, 2004). Large-scale bird monitoring programs, such as e-Bird, have led to numerous publications and the annual "State of the Birds" report ("2011 Report — Public Lands and Waters," n.d.; Sullivan et al., 2009). The DataONE project funded by the National Science Foundation is building an infrastructure to support the dissemination of environmental data around the world, including data collected by citizen scientists (Strasser, Cook, Michener, Budden, & Koskela, 2011). A recent conference on Public Participation in Research brought hundreds of interested researchers together to discuss the ways that non-scientists can contribute to scientific research (Wiggins, 2012).

Libraries are poised to be important scientific partners by providing substantial help to citizen science projects. They can provide facilities for accessing information, tools for gathering data such as a GPS devices, community support, and learning groups for pursuing particular interests such as invasive species. Libraries could become a data clearinghouse helping to verify the quality of data collected and collaborate closely with scientists from a variety of disciplines.

These kinds of activities help libraries transform to the organizations that thought leaders in the library community envision them to be in the future. For example, in late 2011 the U.S. Institute for Museum and Library Services released a new five-year strategic plan that envisions libraries and museums as hubs for "prepar[ing] people to be full participants in their local communities and our global society" (IMLS, n.d.). Additionally, he International Federation of Library Associations and Institutions include a mission to "promote[s] libraries as vital institutions that enhance people's lives through equitable access to knowledge and information" in its most recent strategic plan (IFLA, n.d.).

The barriers to getting libraries involved in citizen science are lack of awareness about the opportunity, lack of education about science among librarians, and lack of resources to provide training or tools to patrons and librarians. Potential solutions for these barriers include embedding scientists in the library, adopting a mission of scientific translation and communication, and adding new technologies such as virtual spaces to existing libraries.

Libraries of the Future

Libraries have traditionally been focal places on academic campuses and in cities throughout the world. They have functioned as places for research and preserving the information of the past. New digital technologies may have changed the process of document management but they have not changed the importance of libraries as physical places for scholarly activity and community formation (Freeman, 2005). Discussions within the library community have focused on the development of learning and information commons as spaces where students, staff, and faculty can meet and work together. These new spaces offer an opportunity to expand the teaching of all types of literacy (Beagle, 2012).

In the future libraries may provide more resources beyond the typical books and magazines to help patrons learn and manipulate the world around them. One example are tool libraries, which already exist in some communities, for sharing tools, usually physical, to make or repair things. Extensions of this idea are the 'maker labs' that have sprouted up around the United States over the past few years. Maker labs or hacker spaces are meant to be collaborative areas in which people come together and support each other for the development of projects, which may range from decorative throwing LEDs to sophisticated robots (Tweney, 2009).

Citizen science can connect libraries to real-world concerns for patrons, and to other organizations interested in lifelong learning and education. Many people go to the library to learn a skill or a piece of knowledge, and we propose they use the library to contribute to science.

References

2011 Report - Public Lands and Waters. (n.d.). Retrieved September 23, 2012, from http://www.stateofthebirds.org/

ACRL. (1989). *Presidential Committee on Information Literacy: Final Report | Association of College and Research Libraries (ACRL)*. Retrieved September 23, 2012, from http://www.ala.org/acrl/publications/whitepapers/presidential

Beagle, D. (2012). The emergent information commons: Philosophy, models, and 21st century learning paradigms. *Journal of Library Administration*, *52*(6-7), 518-537. doi:10.1080/01930826.2012.707951

Carlson, J., Fosmire, M., Miller, C. C., & Nelson, M. S. (2011). Determining data information literacy needs: A study of students and research faculty. *Portal: Libraries & the Academy*, *11*(2), 629-657.

Feinstein, N. (2011). Salvaging science literacy. *Science Education*, *95*(1), 168-185. doi:10.1002/sce.20414

Freeman, G. T. (2005). The library as place: Changes in learning patterns, collections, technology, and use. *Library as Place: Rethinking Roles, Rethinking Space*. Washington, D.C., USA: Council on Library and Information Resources.

Grafstein, A. (2002). A discipline-based approach to information literacy. *The Journal of Academic Librarianship*, *28*(4), 197-204. doi:10.1016/S0099-1333(02)00283-5

IFLA. (n.d.). *Strategic planning | IFLA*. Retrieved September 23, 2012, from http://www.ifla.org/en/strategic-plan

Irwin, A. (1995). *Citizen science: a study of people, expertise, and sustainable development*. Psychology Press.

Mounce, M. (2010). Working together: Academic librarians and faculty collaborating to improve students' information literacy skills: A literature review 2000-2009. *Reference Librarian*, *51*(4), 300-320. doi:10.1080/02763877.2010.501420

National Science Foundation (U.S.). (2009). *Earth science literacy principles [electronic resource]: The big ideas and supporting concepts of earth science.* Washington, DC: National Science Foundation.

Nerbonne, J. F., & Nelson, K. C. (2004). Volunteer macroinvertebrate monitoring in the United States: Resource mobilization and comparative state structures. *Society & Natural Resources*, *17*(9), 817-839. Doi:10.1080/08941920490493837

Omenn, G. S. (2006). Grand challenges and great opportunities in science, technology, and public policy. *Science*, *314*(5806), 1696-1704. doi:10.1126/science.1135003

Pinto, M., Cordon, J. A., & Diaz, R. G. (2010). Thirty years of information literacy (1977-2007): A terminological, conceptual and statistical analysis. *Journal of Librarianship and Information Science*, *42*(1), 3-19.

Presidential Committee on Information Literacy: Final Report. (n.d.). Retrieved September 23, 2012, from http://www.ala.org/acrl/publications/whitepapers/presidential

Rader, H. B. (2002). Information literacy 1973-2002: A selected literature review. *Library Trends*, *51*(2), 242.

Sullivan, B. L., Wood, C. L., Iliff, M. J., Bonney, R. E., Fink, D., & Kelling, S. (2009). eBird: A citizen-based bird observation network in the biological sciences. *Biological Conservation*, *142*(10), 2282-2292. doi:10.1016/j.biocon.2009.05.006

Tweney, D. (2009, March 29). *DIY Freaks Flock to "Hacker Spaces" Worldwide | Gadget Lab | Wired.com. wired.com.* Retrieved from http://www.wired.com/gadgetlab/2009/03/hackerspaces

Wiggins, A. (2012, September 18). *PPSR Working Group Report*. Presented at the DataONE All-Hands, Albuquerque, NM.

Socialize Me. What Kind of Web 2.0 Tools Do Students Need on a University Library Website?

Marta Tyszkowska
Nicolaus Copernicus University, Institute of Information Science and Librarianship, Poland. Email: marta.tyszkowska@wp.eu

Abstract: *The paper presents the use of Web 2.0 tools on the Polish university libraries` websites and the preferences of students, relating to the presence of various Web 2.0 tools on library websites. In order to investigate students' needs in this area, a survey among 500 students of Nicolaus Copernicus University (third year of study), from all faculties of the University was conducted. Respondents evaluated the usefulness of the individual Web 2.0 tools on the websites of libraries, as well as their credibility. The frequency of using various Web 2.0 tools was examined, both in the students` daily lives and during the use of the University Library website. Respondents indicated communication tools remaining in the conventions of Web 2.0, which they believe are necessary and should be included on the site of the University Library. Students identified the functions to be fulfilled by the University Library website as well. The results of the analysis and conclusions that may help to adapt websites to the requirements of library patrons, are presented and discussed in the paper.*

Keywords: *Web 2.0 tools, university library website, Library 2.0, students` expectations.*

Introduction

Higher education in Poland is one of the fastest growing areas of social life and has fundamental importance for the development of science and technology, as well as indirectly for the state of the national economy. Over the past twenty years it has moved rapidly through organizational and quality changing. Among the institutions that create and implement the policy of development in higher education, there are libraries operating at high schools, universities, polytechnics and other academic and scientific organizations. Web 2.0 (the second-generation Internet) conception and Internet tools have an increasing impact on the functioning of the libraries of higher education area. Web 2.0 is a dynamically developing phenomenon, based on the collaboration of users in creating the content of websites. It allows information sharing and interoperability. Web 2.0 includes social networking, blogs, RSS channels, wikis, media sharing, web applications, mashups and tags (folksonomies). The origins of this concept dates back to 2004, but the individual tools included in Web 2.0 were already known before. Therefore, the creation of Web 2.0 phenomenon was not a revolution, but a progressive evolution and adaptation of its assumptions in various areas of life. The paper focuses on the use of second-generation Internet tools on the websites of Polish university libraries.

Methods

The analysis covers one of the seventeen polish public university libraries, Nicolaus Copernicus Univeristy Library in Torun (Poland) that has been selected for the research. Library website includes such communication tools as RSS channels, Facebook profile, instant messaging, contact form, newsletter, You Tube videos and e-learning. In order to investigate students' preferences relating to the presence of various Web 2.0 tools on the websites of libraries, particularly on the Nicolaus Copernicus University Library`s website, a survey among 500 students (third year of study) from all faculties of the University was conducted. Respondents evaluated the usefulness of the individual Web 2.0 tools on the websites of libraries, as well as their credibility. The frequency of using various Web 2.0 tools was examined, both in the students` daily lives and during the use of the University Library website.

Findings

One of the specific objectives of the study was to determine whether respondents know the meaning of Web 2.0 (Second Generation Internet). The results show, that vast majority of students (82%) was not familiar with any of the listed terms. Among 18% of respondents declaring the knowledge of Web 2.0, only one third (approx. 7% of all respondents) indicated the correct definition of the three listed in questionnaire. This shows a negligible

knowledge of the concept and its rudiments, which is not, however, a barrier to practical use of Web 2.0 resources, capabilities and tools.

A survey conducted among students at Nicolaus Copernicus University shows that 77% of them declare the use of Web 2.0 services and tools when preparing projects, papers and presentations for academic use, but only one third of respondents using these sources refers to it in references (footnotes, citations). The reasons for this may be, on one hand, easy and quick access to user-generated content, but on the other hand, the academic community relates with a reserve to the content created by anonymous Internet users as a source of accurate and reliable information. Thus, the content available online, created in the spirit of Web 2.0 is often an important source of information for students, but the actual origin of the information is not always disclosed, for fear of possible disapproval by academics.

It is essential to determine the frequency and ways of using the Web 2.0 tools in everyday life in the study group. For this purpose, respondents were asked to indicate those tools, that are used in everyday life and to determine the frequency of their use. The questionnaire included:

- Reading blogs,
- Writing blogs,
- Using instant messengers,
- Using Internet forum,
- Commenting the user-generated content,
- Using social networking,
- Uploading multimedia,
- Reading articles from Wikipedia,
- Editing articles In Wikipedia,
- Adding tags,
- Using e-learning,
- Subscribing RSS channels.

In order to clarify the frequency of using various Web 2.0 tools, respondents assigned following terms to individual tools enumerated in questionnaire: very often, often, rarely, very rarely, never, and I do not know this tool. The weights were assigned to individual responses, which were then multiplied by the number of replies. The results for the individual tools were summarized and divided by the total number of responses to compare the frequency of use of these tools.

Table 1. Frequency of use of these tools

Frequency	Weight
very often	4
often	3
rarely	2
very rarely	1
never / I don`t know this tool	0

The analysis identifies three groups of tools, specified on the basis of their frequency of use. First group includes the most popular and handful tools, such as:

- Wikipedia, which is used often or very often by 74% of respondents,
- Facebook (used by 68% of respondents)
- Instant messengers, used by 66% of respondents, such as MSN Messenger or Skype.

Most of the students are very active using these tools on a daily basis, mainly in order to communicate easily and quickly, gain information and provide themselves an entertainment.

- The second selected group of tools, used with an average frequency, includes five applications and tools, such as:
- Blogs (54% of respondents read it very rarely or rarely and only 26% often and very often),
- Forum (56% of respondents participate in forum rarely or seldom and 28% often and very often),
- Comment on content posted on the internet, e.g. blogs, media, (51% of respondents upload it rarely or seldom and 23% often and very often),
- multimedia,e.g. audio and video files, presentations, (39% of respondents upload it rarely or very rarely, 24% frequently and very often),
- E-learning (50% of respondents uses it very rarely or rarely, 7% often and very often).

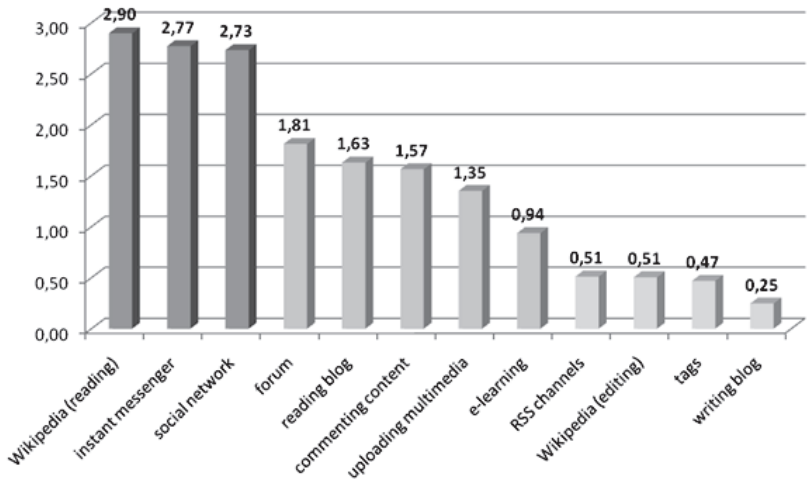

Figure 1. An average value of the frequency of using Web 2.0 tool by the respondents in their daily lives.

The third group consists of the tools that are least likely to be used by the surveyed students. Among them there are:

- Running a blog - 84% of respondents has never used this type of application,
- Editing Wikipedia articles - 72% of respondents declared that they have never used this tool,
- Adding tags (keywords) - 66% of the students have never taken part in this type of activity.

Respondents use Web 2.0 tools and applications, despite a dim knowledge of the concept. This confirms the statement that social networking sites are increasingly being used by the internauts, which is shown both by the growing number of users and the rising average time spent within virtual communities. The least known and recognized Web 2.0 tools are RSS feeds. 35% of respondents had never met with such a tool, and 65% had never used it. 5% of respondents were not familiar to adding tags (folksonomy), and 3% of the surveyed students had never used e-learning.

Knowing the non-scientific preferences of respondents, further step in the analysis was to determine the reliability and relevance of the various online social networking tools on the library websites. Surveyed students have the experience in finding information and using online resources and web tools, which is confirmed by a great activity in the use of library websites. Great majority of respondents (68%) declare to use the University library website very frequently, such as few times a month or more. Another frequently visited websites include faculty libraries and public libraries websites, less often digital libraries and other types of library websites. Overall, more than 60% of the respondents use the library web services, and 28% of respondents visit regularly two or more library websites. Basing on this data, it can be concluded that most students frequently use research libraries that collect in-depth materials and ensure access to electronic sources.

In order to determine the confidence and credibility of Web 2.0 tools, surveyed students were to evaluate the reliability of information gained on the library websites by using enumerated Web 2.0 tools, such as:

- Library blogs,
- RSS feeds,
- Instant messengers (chats with librarians),
- Tags (folksonomy),
- Patrons` forums,
- Users` comments,
- Multimedia uploaded by users,
- Libraries` Facebook profiles,
- Libraries` videos on YouTube,
- Libraries` wikis,
- E-learning (e.g. library training),
- Reviews of library materials added by patrons,
- Podcasts.

Surveyed students could identify each tool as reliable or unreliable, or point out the unacquaintance of it. One of the most reliable sources of information or tools available on the library websites turned out to be e-learning, on the example of library training, indicated as credible by 73% of students. Another highly reliable tool, indicated

by 58% of respondents, is adding the reviews of library materials on library websites by readers. Half of the students consider libraries` forums, libraries in Facebook and libraries` wikis as plausible tools.

The least reliable source of information available on libraries` websites appears to be instant messaging (indicated by over 40% of respondents), multimedia uploaded by patrons, tags and comments added by users (one in three surveyed students consider them to be unreliable).

One of the aims of the study was to evaluate the usefulness of the tools available on the libraries` websites. Respondents could identify the tools as necessary on the website, useful, useless, or indicate that they do not know it. Almost a quarter of respondents evaluate the possibility of suggesting books to buy as a necessary tool on the library website. Few tools on libraries` websites, enumerated hereunder, were evaluated by patrons as useful:

- Reviews of library materials added by patrons (65% of respondents),
- Patrons` forums (62% of respondents),
- E-learning (e.g. library training, 57% of respondents),
- Suggesting books to buy (56% of respondents),
- Multimedia uploaded by users (55% of respondents),
- Libraries` wikis (54% of respondents),
- Contact forms (52% of respondents),
- Tags (folksonomy, 51% of respondents).

Respondents indicated that there are few unsuitable tools for library websites, such as:

- Instant messengers (43% of respondents),
- Videos posted by the library on You Tube (38% of respondents),
- The ability to personalize web design (font size, background color, 37% of respondents),
- Libraries` Facebook profiles (34% of respondents),
- Podcast (31% of respondents).

The least-known tools by students have proven to be RSS feeds (59% of respondents). At the same time, respondents who met with this type of applications, evaluate them as potentially useful to library websites (25% of all respondents).

One of the most important information needed for further analysis is to identify the frequency of use of the Nicolaus Copernicus University library website by students. The results indicate that 68% of respondents use the University Library website few times a month or more, which indicates a strong interest and high popularity among surveyed students. Respondents were asked to indicate those tools, that they use being on the University library website and to determine the frequency of their use. The questionnaire included:

- RSS feeds,
- Instant messengers (chats with librarians),
- Contact forms,
- Libraries` Facebook profiles,
- Libraries` videos on YouTube,
- E-learning (e.g. library training),
- Newsletter.

In order to define the frequency of using various Web 2.0 tools, respondents assigned following terms to individual tools enumerated in questionnaire: very often, often, rarely, very rarely, never, and I do not know this tool. The weights were assigned to individual responses, which were then multiplied by the number of replies. The results for the individual tools were summarized and divided by the total number of responses to compare the frequency of use of these tools. The study shows that the most popular tools are:

- Library training online (48% of the students use it seldom, 5% often),
- Contact form with the library (35% of students rarely, 7% often)
- Newsletters (30% of students rarely, 9% often).

Other tools are used less frequently, on average by 20-25% of respondents.

Respondents use social networking applications available on the University Library website much less than similar tools and applications in everyday life. Average frequency of using instant messengers and social networking sites by respondents in everyday life is several times greater than when communicating with the University library.

According to the respondents, the most useful and necessary function, currently not available on the Library website, would be the possibility of suggesting books to buy as well as the ability to add reviews of library

materials by patrons. An analysis of the survey results shows that social applications and tools, useful and reliable in the opinion of the respondents, can successfully be applied to library websites. Most of the students use electronic sources created by Internet users regularly, both in their daily life, treating it as a form of entertainment, as well as for the academic purposes. Frequently used Web 2.0 tools are based on wiki mechanism, including the most popular one - Wikipedia. Majority of student receives user-generated content, and only 27% of respondents declared that they had ever created or edited articles in Wikipedia. This ratio refers to Pareto principle (the 80/20 principle), popular in economics and social science, observed and formulated by the Italian economist Vilfredo Pareto, claiming that approximately 20% of the causes produces about 80% of the effects. According to the research results, it is observed that the vast majority of content in Web 2.0 services, such as Wikipedia and social networking, is created by a minor group of the most active and involved Internet users. A considerable number of respondents use Web 2.0 tools in their everyday life. These experiences can be translated to the evaluation of Web 2.0 tools that are available on the libraries websites. A similar reasoning refers to tools rated as useful on the library website. These include suggesting books to buy, reviews of library materials added by patrons, forums, library trainings (e-learning), multimedia uploaded by users, wikis, tags, and contact forms. Respondents use Web 2.0 tools on libraries websites infrequently, which may be due to improper selection of this type of applications. Among the tools used on libraries websites, the most popular are online library trainings, as well as a contact forms and newsletters. Users are less interested in instant messaging and libraries profiles on Facebook.

Respondents indicated communication tools remaining in the conventions of Web 2.0, which they believe are necessary and should be included on the site of the University Library. Students identified the functions to be fulfilled by the University Library website as well. The results of the analysis and conclusions, that may help to adapt websites to the requirements of library patrons, are presented and discussed in the paper. With the development of information technology, a great progress in the ways and methods of communication between readers and librarians is noted. These changes are going in the direction of dissemination the access to information, and in many cases, they give library users the status of contributors, moderators and commentators of the library activities, according to the concept of Web 2.0. Modern libraries, with a wide range of tools to choose, can manage the flow of information, both within the library, as well as to communicate with its external environment. The continuous development of methods for organizing libraries puts up new challenges, including the requirement to adapt the communication tools to users' expectations. Therefore, methods of communication with existing customers and their needs and expectations towards the library website must be identified. Such analysis can provide a starting point for further modernization and improvement of communication tools used in a library.

References

Abram, S. (2006). *Web 2.0, library 2.0 and librarian 2.0: preparing for the 2.0 world.* Retrieved June 14, 2012 from http://www.imakenews.com/sirsi/e_article000505688.cfm

Bogacz, J. (2009). Co to jest Web 2.0? *Biblioteka w Szkole, 7/8*, 3-5.

Casey, M. (2005). *Working towards a definition of library 2.0*. Retrieved June 20, 2012 from http://librarycrunch.com/2005/10/working_towards_a_definition_o.html

Gmiterek, G. (2008). *Czego potrzebują bibliotekarze 2.0 i co mogą im dać informatycy. Nowe media a środowisko biblioteczne XXI wieku. W stronę społeczeństwa nadmiaru informacji.* Retrieved June 16, 2012 from http://www.sbc.org.pl/dlibra/docmetadata?id=10043&from=publication

Hofmokl, J. (2009). *Internet jako nowe dobro wspólne*. Warszawa: Wydawnictwa Akademickie i Profesjonalne.

Ostrowska, D. (2008). Od Web 2.0 do Biblioteki 2.0. *Bibliotekarz,* 3, 10-13.Stępień, K. (2010). *Folksonomie.* Warszawa: Wydawnictwo SBP.

Why University Libraries Don´t Trust Facebook Marketing?

Jaana Roos
Institute of Information Studies, Tallinn University, Estonia. E-mail: jaana.roos@tlulib.ee

Abstract: *University students are using social media network Facebook every day; they spend hours communicating with friends there. Since 2007 Facebook has been open for every kind of organizations who have possibility to market their services and products through Pages. This also has given libraries a chance to be closer to their audiences. This paper explores how Estonian university libraries use their Facebook Pages to make them more visible and how librarians feel about the possibilities social media provide. Data was collected using qualitative content analysis and semi-structured interviews. Unfortunately, only a few 'Pages' use a little bit more than just posting some neutral messages to the Wall and uploading few older pictures which probably don´t attract students´ minds enough and that comes out from low numbers of Fans. Hopefully the results of this study help librarians to see how much is left undone and there is so much potential left in Facebook.*

Keywords: *Estonian university libraries, marketing, social media, Facebook, Facebook university library Pages.*

Introduction

Web based social media has been attracted people´s attention about 20 years already. Few years after creating Facebook site, special "Pages" for organizations and companies were launched in 2007 who could now promote and market themselves in Facebook (Riza Ayu & Abrizah, 2011). A lot of commercial enterprises as well as non-profit institutions started to use the possibilities offered by that social network site.

Libraries should be in the public eye all the time and it is important to be visible as possible without spending lots of money. Marketing in a need rather than a luxury; it is management process which identifies, anticipates and supplies customer requirements efficiently and profitably (McLam et al, 2007). As most of library´s users are in the same time regular users of social media, it is important to libraries also to move into this environment to be closer to users.

Facebook is quite popular in Estonia - the most recent data (end of November 2012) shows that more than 38% of population owns profiles in Facebook (Estonia Facebook statistics). However this social network has not been common research subject among local library and information science students, researchers nor librarians. Some students have analyzed social media and Facebook marketing of businesses in their master projects (Aasrand, 2010; Tammeoks, 2010), but no-one has investigated library marketing in Facebook.

Purpose of this article is to explore the use of social network site Facebook as one possible marketing channel in Estonian university libraries. Paper consists of parts where background, methods, results and discussion are analyzed.

Background and Context

Although Facebook is popular and step-by-step libraries are starting to use those possibilities that social network is offering, there are not many studies about libraries using Facebook. Still those few ones offer us some kind of overview what have been studied in this field.

Sokoloff (2009) was analyzing Facebook profiles of six different international libraries around the world (in South Africa, United Kingdom, Serbia, Australia and Canada). He found that different libraries have varying degrees of activity - some use plenty of applications and interesting ways to interact, others have few 'Wall' posts and a year old photo album. Sokoloff concluded his research with assessment that there are so much that libraries can win by learning to use social networking.

Jacobson (2011) focused on 12 United States libraries´ Facebook pages´ content. Results showed that many libraries use Facebook as marketing tool but librarians are bit more ambitious in their hopes for their presence in Facebook. It was seen from the results that librarians perceive their use of Facebook much more active than it is actually; libraries should update their page more than once a week and Facebook is better tool for 'active' libraries who organize lots of events and activities.

Some information studies literature explores solely academic libraries in Facebook. Calvi, Cassella and Nuijten (2010) were quantitatively analyzing 12 Great Britain´s university libraries´ use of Facebook pages. They concluded from findings that two kinds of libraries can be identified: libraries with very active Facebook profile and who invest on their page a lot; libraries that do little because of low appreciation of the value Facebook page can add or because of resource limitations.

On the other side of the world Riza Ayu and Abrizah (2011) conducted a research exploring the use and exploit of Facebook applications among Malaysian academic libraries. They consider most Malaysian academic libraries use this network site as marketing tool (informing users, outreach to students, create awareness), however the pages should be consistently updated and made more "human" to attract users.

Hendrix et al (2009) focused on academic health science libraries in United States and found that libraries who are using Facebook mainly for marketing (push out announcements, post photos, provide chat reference etc.) feel more positive about the future success of their presence.

It is suggested that besides pages there are several third-party applications created or opportunities to use outside parties for making library Facebook profile more attractive, libraries should use Facebook in maximum way (Ganster & Schumacher, 2009).

Even though it is possible to use Facebook for free, some libraries have had very good results from paid Facebook advertising campaign which effectively doubled the rate at which new fans were being added to the library Facebook page (Chan, 2011).

Current paper about Estonian university libraries is based on studies analyzing Facebook pages in different regions mentioned above. Those researches have quite same results: new data to Facebook should be uploaded regularly, that social network site should be used in maximum way and Facebook can offer very effective marketing possibility to libraries.

Methods

Purpose of the research is to find out what opinions Estonian university librarians have towards possibilities that Facebook offers; how and why they have used those opportunities; why librarians are still not very active in Facebook; why some libraries are not using Facebook for marketing themselves.

There are seven higher education institutions which have university status given by Estonian Ministry of Education and Research: University of Tartu, Tallinn University of Technology, and Estonian University of Life Science, Tallinn University, and Estonian Academy of Arts, Estonian Academy of Music and Theatre, Estonian Business School (private). In the current research all libraries of those universities were analyzed in spite of do they own a Facebook profile or not.

The real Facebook pages of libraries were analyzed and opinions of library representatives were studied during the research. Two types of research methods were used in two different stages to collect data: at first qualitative content analysis were conducted and after semi-structured interviews were carried out.

Qualitative content analysis was conducted twice (June and October 2012). First phase was timed into the end of academic year; data posted between January and mid-June 2012 was examined at this stage. During the second stage the new semester was already on the half-way; in October it was explored which content was created during mid-June to mid-October. All together about 10 months-period was analyzed to find out what kind of content has been generated.

Interviews were carried out face to face in all university libraries in the beginning of November 2012. Respondents were library staff whose work is to administrate Facebook profiles (librarian, head of service department, and head of information department, public relations officer, and marketing manager). In the absence of the profile the library manager was interviewed.

Results

Qualitative Content Analyzes

During the first analysis main data from libraries´ Facebook profiles was examined. Information collected by qualitative content analysis included basic information from section 'About', the number of people who like the page; also the use of specific applications such as photos, videos, notes, events etc. Important part of the research was to collect information of the wall posts - how many posts have been posted, which topics are

covered, how much feedback is given. Only posts released between January and mid-June 2012 was analyzed in the first survey.

Only four libraries from seven use Facebook to make their institution more visible to public. Three of the profiles were created in 2010, one in 2011. Quite disappointing was to see how few people are in friend-relationship with the libraries. Comparing the number of friends with amount of people who are readers in the library then on one case only 0,97% of the readers are also library´s friends in Facebook; the highest percent was 3,37 which is also very low. So is it really possible to make yourself more visible to one percent of the readers? Can we even talk about visibility or marketing or we should just start talking about existing in social media?

There were not many photo albums on the libraries´ profiles: one library had seven albums, others had four. Topics of the photos were basically events, exhibitions, books, library building. Most of the photos were uploaded more than year ago; newer pictures are added mostly to 'timeline' photo album. Only two libraries use video application - one has two videos from year 2010, second has three videos from the same year (table 1). In first videos there are small introduction to library and one service, others introduce anthem of the university and cafe located in library.

Other applications are not used at all. One library have been using 'notes' and 'events' application, but last update of them was about year ago. Other libraries haven´t used any extra possibilities. Three libraries have used the option to like other organizations 'pages'.

In average there are four posts per month by libraries, depending on month and events going on. Mostly it is announced about changes on opening times and events taking place in library or in university. Feedback from users in Facebook is quite different: one library got up to 111 likes to 27 posts, while other one got just 21 likes to 15 posts. Same situation is also with 'shares' and 'comments' when library profile with many posts got more feedback through sharing and commenting than library with less posts. Also on most active profile there were more posts by others. It shows how active operating on Facebook page brings more users to pass by and leave feedback to the work which is done.

Table 1. Facebook page maintenance (January to mid-June 2012)

Lib. No.	Profile created	Friends	% from readers	Posts	Likes per post	Posts by others	Photo albums	Videos	Liking others
1	Feb 2011	64	0,97	15	21	0	4	0	0
2	May 2010	406	1,42	20	44	0	4	0	12
3	May 2010	965	1,86	30	103	0	4	2	14
4	May 2010	1793	3,37	27	111	6	7	3	26

From the second content analysis comes out that nothing much have been changed. Profile pictures as well as cover photos are the same, there have been made just slight changes under 'profile info', numbers of friends also haven´t increased significantly (from 5,4 to 6,5 and from 4,8 to 7,75). The average number of posts on Estonian two biggest university libraries´ (University of Tartu, Tallinn University) Facebook profiles has risen, probably due to renovation works which were put through in those libraries. Still most popular topic posted is changes in opening hours, less is written about exhibitions and new databases.

From the mid-June to mid-October 2012 only one library has uploaded new photo albums, others have posted just single photos to the 'Wall'. Also no new videos, notes, events, recommendations. That one more active library´s administrator has included some new pages to 'likes', no changes on other profiles.

Altogether all four libraries are quite passive in Facebook. Most used possibility is adding photos but this is also quite scarce. Not many posts or photos are added during one month, library workers are posting only about events or most important information not to start conversation with users. Feedback from readers is low, there is not active communication going on Facebook pages.

There are no very attractive new photos or videos; posted text is also rather dull. Postings are always neutral containing information about opening hours, exhibitions, sparsely book presentation, database or services. Facebook page in this form doesn´t offer anything new or different compared to web site. This raised many questions to which only profile administrators are able to answer.

Interviews

Basic purpose of interviews was to find out library management´s attitude towards Facebook and why Facebook marketing is or is not used; also how important it is to libraries to use social media; why Facebook profile administrators are not so active and why they are not using Facebook´s possibilities in maximum way.

For the start all the respondents understand the expression 'library marketing' very differently. Some say it is advertising or selling your services, others think that it is image building, everyday work in library or information management. Here are some examples:

> *It is uncertain expression as library already has clients. It´s finding out the needs of the client and then offer our service based on that. (Interviewee 4, November 1, 2012)*
>
> *... it is some kind of new perspective which I have considered as natural library work. (Interviewee 7, November 6, 2012)*
>
> *Everyday work. (Interviewee 1, October 29, 2012)*
>
> *Image building. Organizing events which add a positive image to the library. (Interviewee 5, November 5, 2012)*

All the libraries use their web site for informing the public, in addition also mailing lists, people (professors and subject information workers), trainings, events and printed materials. Those marketing channels are mostly traditional and developed through time; none of the libraries have them mentioned in any strategic documents. Main marketing channel is web site; librarians trust it and consider this as users´ basic information source.

Almost all the respondents find that libraries should make themselves more visible through social media. Preferred site is Facebook, because so many users are there - especially young people. None of the libraries who have profile regret creating Facebook page. Administrators are aware of lack of active communication on pages, still they don´t find any reason to close those pages. No libraries had specific aim for marketing - Facebook profiles were created to become more youthful or just because other libraries already had a page.

Not having a Facebook page is mainly connected with lack of need or resources. Smaller university libraries don´t feel the necessity to have library´s page as there already exists university´s Facebook profile where all the information is shared to the students. If users show their wish to get information straight from library profile then probably the page would be opened.

Despite of neutral and dull posts, photos and videos librarians state that the students are a priority in Facebook and most of the posts are entered of them. On the other hand interviewees notice that library is academic unit of university which requires communicating with users in certain way - librarians feel that university as well as library has to be rather formal in their statements. Facebook profile reduplicates the content on library´s web site. Most of the librarian's who´s institution has a Facebook page have an opinion that information they share has to be formal, concrete, elaborated and strictly businesslike also in social media.

> *We are part of the university and we do everything like they do. ... I don´t want it [Facebook page] to become a place of gibberish. (Interviewee 1, October 29, 2012)*
>
> *Not all academic institutions should try to be popular and youthful. (Interviewee 5, November 5, 2012)*

During the interviews it was noticed that libraries don´t regard Facebook as neither serious nor important channel. There have not enforced any user satisfaction surveys, no goals and expectations are set, Facebook is not mentioned in any strategic document (except annual reports). At the moment libraries use Facebook profiles only for informing. Respondents found that basically nothing would be wrong if one day Facebook wouldn´t exist anymore. Social media is not a priority to libraries, some even don´t think about it as one marketing channel.

Discussion

Using social media for marketing libraries is very important as interviewees responded, but on the same time not all libraries use those possibilities. Although it is proved that libraries who market themselves in Facebook are satisfied (Hendrix et al, 2009) and advertising there can improve visibility of organization (Chan, 2011), Estonian university library workers are not very confident users of social network. Librarians feel that Facebook is one-time phenomenon which will disappear soon or new sites will take over its place.

Fear of losing Facebook is main purpose of why librarians are not very active in Facebook pages. Those few uploaded pictures and some posts don´t require many resources which libraries have already low. Like Calvi et al

(2010) found there are two types of libraries´ Facebook pages it is also noticeable in Estonian context - one big library have more time and people to improve their 'Page' and that results in higher degree of feedback and activity of users.

Overall the results of content analysis showed quite low activeness of Estonian university libraries´ pages. From one side librarians do not update content on the pages very often; many times there is just one new post per week. In my opinion this is too little, that way we cannot speak about 'making library more visible to public'. Sure social media is great way to show what library is and organization can win a lot with being in Facebook as Sokoloff mentioned, but on the other hand sometimes librarians see their actions on social sites differently than it is visible to users (Jacobson, 2011).

Facebook is being used mainly for announcements; it is reduplicating libraries´ web site. Interestingly librarian's don´t feel a reason to change anything or to do something differently. Although most pages were created to be more youthful and closer to university students then published content is still as dull and formal as in official documents. Facebook marketing is not mentioned in any of the strategic papers; it is not told how librarians must communicate in social media. For many students it is important to talk in their language and in 'human' way to attract attention, this is also a way libraries could apply in Facebook (Riza Ayu, Abrizah, 2011).

Overall the study showed that Estonian university libraries are rather passive in Facebook. Management doesn´t see the reason to promote library too much in social media as other mediums (web site, everyday work, and mailing lists) work well enough. This is also main cause why some university libraries doesn´t have Facebook pages created - librarians feel that everything traditional works still fine and readers are aware of library.

Conclusion

University libraries are frequently using different marketing channels. But the exploit of Facebook is rather poor due to many different reasons: lack of resources, no need to be there, other channels are good enough. Librarians are aware that using Facebook needs a lot of attention and work as pages there should be updated more often than once a week to be successful. Although there are no official strategies or instructions prepared university libraries still try to exist in Facebook even without specific goal to reach.

Social networks have so much potential and libraries have been given a possibility to use everything Facebook offers. Now it is last minute to start taking Facebook seriously and exploit it in maximum way. Estonian university libraries should start being more up-to-date and accept new technology as well as new ways of marketing themselves.

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References

Aasrand, J. (2010). *Facebook eesti ettevõtete kommunikatsioonivahendina: Ettevõtete sisu kontentanalüüs* [Facebook as communication tool for Estonian companies: content analisys of companies]. Bakalaureusetöö: Tartu Ülikool.

Calvi, L, Cassella, M & Nuijten, K. (2010). *Enhancing users´ experience: A content analysis of 12 university libraries Facebook pages*. Retrieved December 12, 2012 from http://elpub.scix.net/data/works/att/118_elpub2010.content.pdf.

Chan, C. (2011). Using online advertising to increase the impact of a library Facebook page. *Library Management*, *32*(4/5), 361-370.

Estonia Facebook Statistics. Retrieved December 12, 2012 from http://www.socialbakers.com/facebook-statistics/estonia

Ganster, L & Schumacher, B. (2009). Expanding beyond our library walls: Building an active online community through Facebook. *Journal of Web Librarianship*, *3*, 111-128.

Hendrix, D., Chiarella, D., Hasman, L. & Murphy, S. (2009). Use of Facebook in academic health sciences libraries. *Journal of The Medical Library Association*, *97*(1), 43-46.

Jacobson, T. B. (2011). Facebook as a library tool: Perceived vs. actual use. *College & Research Libraries, 72*(1), *79-90.*

McLam, L, Storey, C., & To, T. (2007). *Target the staff, then target the market*. Library management and marketing in a multicultural world: Proceedings of the 2006 IFLA Management and Marketing Section's conference, Shanghai (pp 82-102).

Riza Ayu, A.R. & Abrizah, A. (2011). Do you Facebook? Usage and applications of Facebook page among academic libraries in Malaysia. *The International Information & Library Review*, *43*(4), 239-249.

Sokoloff, J. (2009). *International libraries on Facebook. Journal of Web Librarianship*, *3*, 75-80.

Tammeoks, K.L. (2010). *Turundus sotsiaalmeedias: Eesti ettevõtete kogemus - põhjused, info ja tulemused* [Social media marketing: Experience of Estonian companies - reasons, information and results]. Bakalaureusetöö: Tartu Ülikool.

Bringing Special Collections to the Forefront of Society - International Collaboration as a case study of Manuscriptorium Digital Library

Adina Ciocoiu
DILL, Parma University, Parma, Italy. Email: adina_ciocoiu@yahoo.com

Abstract: *Creating a future for the past is the challenge of the millennium, knowing and accepting everyone's uniqueness and value, putting all the difference together to create, innovate, develop and progress. This paper will put forward digitized special collections and the act of international collaboration undertaken by heritage institutions in order to ensure the preservation and the availability of their historical treasures in the local and global culture. This paper is based on the authors' research that was delivered as a Master's thesis in June 2012. The research objectives aimed at identifying the advantages and disadvantages of international collaboration for the participant library, determining the level of awareness of the local community of researchers and examining the impact of participation in collaborative digital libraries of manuscripts. Therefore, Manuscriptorium Digital Library was considered to be the most comprehensive, easy accessible, virtual research environment and it was chosen to be analyzed in the context of the European research community. The findings described the act of international collaboration as beneficial to the local institutions and offered five perspectives on international collaboration from the perspective on communities and activities, content and location, management. The overall conclusion of this research is that international collaboration can be defined a structured mix of institutions grouped around an idea - an idea that is supported by certain activities, tasks and level of involvement. Lastly, three roles were identified: the aggregator, the active participant and the passive participant, all adding value to the collaborative act in the digital age.*

Keywords: *Special collections, international collaboration, virtual research environment.*

Background and Purpose

The digital age has brought to the library domain many changes and challenges for both professionals and users. The new humanism embraced by today's professionals and is the result of globalization and technology; expressed by the "mingling of peoples and cultures" that compels new conditions for mutual understanding (Bokova, 2010, p. 2). Joining technical expertise and systems online helps building platforms for human interactions and it encourages the audience to learn and discover, but most of all, it offers institutions the chance to present themselves as valuable actors on the national and international scene (Frumkin, 2006). Nowadays, libraries have become active players in the societal game and they realized that one of the keys to remain so is to share their expertise and resources. This is one reason that pushed international collaboration in digital libraries among the hot topics, acknowledging the advantages brought to all partners to what regards funding, sharing expertise and exchanging know-how. Nevertheless, the collaborative act has its challenges as different institutions come together having different perspectives and experience, but in the end they are able to share a common goal and to bring their valuable collections accessible worldwide.

Digital Libraries Collaboration for Special Collections

When considering the act of collaboration, Bishoff (2004) underlines its imperativeness and the need for libraries, museums and archives to take it into account when approaching the acquisition of sustainable and cost-effective model. These institutions hold different types of materials, but all of them want to contribute to the creation of spaces where cultural heritage can be accessed and re-used. The historical materials that were collected over time by these institutions are now shaping the culture and national identity and with the help of technology, they work to reunite and to share them using digitization and collaborative projects. As Ayris puts it, the online version of a document is more likely to develop innovative partnerships and services, moreover now when historical collections can create alternatives in library collaboration (Ayris, 2012).

Virtual Research Environment as an Effect of Collaboration

Virtual research environments (VREs) as envisaged by Fraser (2005) stand for the digital infrastructure and services needed to support particular research. It comprises a number of services and systems to aid teaching and learning. Collaboration is one of the most used concepts of virtual research environment as it allows

multiple disciplines to work together and to develop a suitable space for research. For librarians, VREs translate into an opportunity to create and maintain new spaces for their communities and relate to changing perspectives regarding their activities. Voss and Procter (2009) also note that VREs are here to help researchers interact in a collaborative manner to improve scholarly communication. This implies using a proper infrastructure that allows transfer of information, data use and re-use, discoverability, publishing and monitoring alongside their peers (p.179).

The case of Manuscriptorium Digital Library is the best example for proving the benefits of collaboration. Manuscriptorium gathers content - manuscripts, rare books, maps, charts, letters, and many more - from various European institutions - national and university libraries, research institutes - and makes it available as digital representations through a virtual research environment. Manuscriptorium as a platform for scholarly research provides all the technical expertise for participants and allows for local and global interaction. Nevertheless, the focus of this study is more on how people interact with systems and less on the technical aspects of the digital library.

Objectives and Methods

For this study, we subscribed to the Gonçalves et al. (2004) description of digital library architecture, as to contain five main variables. These were described in "Streams, Structures, Spaces, Scenarios, Societies (5S): A Formal Model for Digital Libraries" and defined as content (streams), management (structures), locations (spaces), activities (scenarios) and communities (societies) within the digital library (p.270). The choice for pursuing these five variables is strongly related to the aims and objective of the study, namely to describe and understand libraries' experience in international collaboration from the management and functionalities point of view and to assess the benefits brought by the content to the communities involved in the process considering the location of each participant. Being a qualitative study it relies mostly on perceptions and experiences of individuals therefore its focus is on presenting and understanding a particular set of circumstances or problem for both the local and global perspectives. It involves understanding the phenomena of joining and participating in international collaboration with regard to particular collections (i.e. Special collections of manuscripts) that are presented in a particular way (i.e. digitally, in a virtual environment). Moreover, this research follows the case study approach which allows us to complement the findings with the existing knowledge and experience. A semi-structured questionnaire was developed and sent out at the end of April to mid-June to all 41 participant institutions but only 28 institutions answered it (11 national libraries, 9 university libraries, 2 public libraries, 6 academic libraries or research institutes). The questionnaire was sent out via electronic mail and it was the only communication tool between researcher and respondent. Even though this was initially designed in English and sent out as such, the Romanian institutions participating in Manuscriptorium that send responses choose to use this language for communication. The time allowed for answering was flexible, from two weeks to being adjusted to fit the respondents' schedule. The interpretivist qualitative approached was used to present the findings in a structured manner. The extended version of the methodological approach, the methods, procedures and instruments used for this study can be found online at http://hdl.handle.net/10642/1266 in the full-text of the Master thesis.

Findings

As previously mentioned, the findings followed the perspective of digital representations, as content placed on an online location that are subject to research activities, all this guided by a particular community that is governed by human and technical management.

The content category emerged from the motivation of creating digital representations of manuscripts and underlined the institution's willingness of exposing them on the web. Caring for these materials and creating new services for the research communities was highlighted. International collaboration triggered a certain position in the local community of professionals and offered credit for further international participations. We noted the concern institutions have for their readers and how their libraries are perceived nationally and internationally. From this perspective, collaboration contributed to its reputations, "it answered the expectations of the readers, it provides materials that can be used at a higher level of education, and it is also part of the self-representation of the library" as one respondent stated. We can conclude that the local institutions are motivated by the value of their collections and are aware of the capacity of the new technologies that can help build complex work spaces for researchers and individuals sharing similar interests. They trusted venturing with experienced partners and learned about the benefits of common spaces for the local and global community of researchers. An interest in scientific research was identified as another

purpose of digitizing special collections, "to give a service to the local communities of researchers" as one respondent puts it. Not surprisingly, from their perspective digitization brings new ways of representing special collections and that's an advantages historical collections have in the digital world.

As concerns the user communities, the respondents mentioned mostly graduates and PhD students, researchers in the humanities (historians, philologists, and library and information specialists), local professors, scholars or researchers locally based at the university. Apart from this, no other communities were identified as possible target which stresses the limitations of special collections research community. From our perspective, this can be interpreted as a very important characteristic of Manuscriptorium, namely benefiting from having a small and dedicated community rather than the general public. Having such a public, it makes it easy for the developers and the creators of the research environment to predict test and evaluate the expectations of the community. Related to the ease of grasping the digital library functionalities, most respondents stated that there were no difficulties to understand mentioning that this often depends on the level of technological literacy of each individual researcher. It is worth noting that some respondents couldn't assess the researchers' interaction with the platform.

The activities category revealed the prior experience of the staff in digital library collaboration. The knowledge and expertise is reflected in the level of participation and involvement. For participants that had no experience, this international collaboration proved the capability to adapt and to adjust to the requirements of the initiative, and it contributed greatly to the quality of the participation. The purpose here was to describe what systems and humans can do with the digital content and therefore three roles were identified: the aggregator, the active and the passive participant.

From the locations perspective, the physical and virtual spaces were identified as settings for interaction with the existing content, be it physical or digital. The "reading room" continues to be the main place for most researchers not ignoring the digital repository for the ones willing to access the digital version of manuscripts. Still, having the manuscripts online offers a good advantage for the remotely located researchers and for this reason having digital representation adds to the benefits of having a unified specialized digital library such as Manuscriptorium. The language, both for content and descriptive information, underlined one of the limitations of globally accessible content. Locations, be they physical or virtual are validated by numbers - of visits, items, and so on - and this defines to some extent its impact of the community, respectively to the society. In this case, the majority of respondents couldn't provide an estimate number of users, the numbers of items accessed or the time spent for the research. In fact, the focus of this study was not on revealing quantitative information, but it helped discover additional information that was not taken into account initially.

Lastly, the management category describes the specific links between content, systems, or standards that allow for uniform representations for the digital content. This category comprises the resources involved in creating and maintaining digital representations - specialized personnel and technical staff as well as the tools developed to support their description and online presentation. The experience gained by the working staff proved to be a very good support for other similar activities, while new skills were learned and mastered. Working with the tools provided by Manuscriptorium was also mentioned among the benefits, as being very easy to include documents and to create digital editions of manuscripts. Regarding the general inquiry about the resources involved in content creation and delivery, all respondents mentioned the contribution of specialized personnel (manuscript librarians and technical staff) along with dedicated software and hardware (scanning technology, digital repository, compliant servers, etc.) For the human resources side, the work carried out for this digital library was included in the normal working hours, the contribution to this digital library being part of their daily tasks and five institutions mentioned having experience with local digital libraries before joining Manuscriptorium. As far as the technical and descriptive metadata are concerned, the tools developed by the ENRICH project were mostly found very easy to use and to grasp. Five respondents found the tools sophisticated and professionally created while some stressed the need for these tools to be improved and updated for future use. To what concerns the funding side, the aggregator mentioned the support from their local government, while other found it hard to get special funding for this particular initiative. For them, incorporating the tasks in their daily work routine was considered to support the motivation for participation as most institutions were already engaged in digitizing their special collections and this can allow simple harvest for the project. The tools developed and recommended by Manuscriptorium - Mtool a stand-alone, online and offline application developed to create structural and descriptive metadata for individual and compound documents (Uhlíř & Knoll, 2009, p. 72), M-Can an online tool that helps the uploading workflow and management of the records (Jindřich, 2009, p. 13) and Gaiji Bank of non-standard characters and glyphs for normalizing manuscript characters not standardized under Unicode/UTF-8 ("The ENRICH Project and Non-Standard Characters," n.d.) - ensured that all the providers used a uniform system to describe their materials and therefore developed an interoperable infrastructure between contributor and

aggregator. In conclusion, all the respondents confirmed that they benefited from this initiative as they gained visibility in the case of small institutions that weren't involved in something similar before. Also, the very practical experience ensured that they benefited from the technical aspect as well as from the knowledge assimilated by the staff (in developing collaborative skills, such a responsibility for their work, the wish to provide quality content, to adjust the theoretical and practical experience of the staff involved to what concerns project management and administrative tasks). Now the manuscripts are visible in a collaborative workspace that encourages historical research to flourish. Still there is room for improvement as far as the tools and the collaborative endeavor are concerned.

Discussion

As mentioned previously, three roles were identified, the aggregator, the active and the passive participant. The discussion is now on how they influenced the act of international collaboration and how this ensured the visibility of historical collections. The aggregator, identified as the initiator of the digital library, has the know-how, the technical support and the funding. It also has the motivation to develop international collaboration, as acknowledged in the vast experience gained from previous participations. It is an active and up-to-date institution, able to understand and to apply further developments for the digital library, and it has the knowledge on how to attract partners and sponsors. The aggregator takes also acts as a help-desk for other participants and assists them in solving the problems they face. The active participant was identified here as the institution that is willing to deliver its digitized local collection to the aggregator, that acknowledges the importance of good quality material (at both data and metadata level). From this perspective, they are aware of the benefits brought by the best possible representation; both locally as well as in the research environment built globally through the digital library platform. It identified a specific local community and it is aware of the fact that the material provided is of international interest. The passive participant, identified as the participant institution that doesn't have the experience, or the knowledge but has the willingness to learn, to open and to evolve knowing the value of its collections.

To reflect on the overall interpretation of the results, we will further discuss their answer to the research questions. Initially, these were enunciated as "What are the challenges and benefits (advantages and disadvantages) for local institutions when participating in international collaborative digital library initiatives?" and "To what extent does the participation in international collaborative digital libraries improve the value of the locally stored digital collections?"

Firstly, institutions face different challenges when deciding or agreeing to contribute to the creation of an international digital library. From the content's perspective, participants need to be sure that they offer high quality digital representation, in term of image and data quality. Therefore they need to work with the technology that allows them to place the document in a complex environment. This can only be provided by professionally trained employees, dedicated to their work, who are aware of their actions which will define the future use of those materials. As for the benefits of international collaboration, the most prevalent was the one of "promoting our local history" and this can be understood as the main benefit from brought by the international collaboration. It not only offers a space where to showcase assets but it contributes to the value of the partner organization. The fact that there was an aggregator that provided tools (even though already developed by a previous project) helped both experienced and not so experienced institutions.

Secondly, the value of local collections has increased, meaning that any remote researchers could have access to it. By creating a virtual space it instantly adds to the value of the document, which is being accessible not only in the library but also on the Internet. When online, this content has a contextualized value in its richest description that allows comparison and analysis alongside with similar documents, accessible maybe in another physical location. This supports the aims of virtual research environments, where researchers could annotate, save, and share the document having no worries about destroying the original.

Overall, collaboration has a visible benefit in the creation of a virtual research environment that could ease the work of existing or potential research communities. Manuscriptorium, as a virtual research environment was made possible by the tools used by the participant and by the compliance of local systems to the required standards. Part of the identified challenges, or disadvantages, was the level of awareness, learning capacity, openness and communication skills. The question of long term funding sustainability was raised considering both local and international support. While the local financial support could raise serious challenges for the participant institution or for the entire project, the international funding implies a good social and political stability to ensure the existence, maintenance and long-term sustainability. Usually, the international participation is better justifiable and less costly. By placing each participant in their own context (from the

institutional background, the historical and political environment) and then adapting this to the context of this case, we believe that this study would have provided rich and contextualized information, and so it would give a better understanding of to the collaborative act. Assessing the international collaboration in the context of identifying the expectations of an existing community for a particular type of content in a virtual research environment, demonstrates the level of awareness for international collaboration among local institutions. Manuscripts and special collections at large are known to represent the documented history of a nation. In a world that calls for sharing resources in the name of progress and innovation, collaboration brings new and broad perspectives for the local organizations.

References

Ayris, P. (2012). Developing European library services in changing times. *Liber Quarterly - The Journal of European Research Libraries*, *21*(3/4), 331-346.

Bishoff, L. (2004). The collaboration imperative. *Library Journal*. Retrieved from http://www.libraryjournal.com/article/CA371048.html

Bokova, I. (2010). *A new humanism for the 21st Century.* Paris: UNESCO.

Fraser, M. (2005). Virtual research environments: Overview and activity. *Ariadne*, *44.* Retrieved from http://www.ariadne.ac.uk/issue44/fraser/

Frumkin, J. (2006). The potential of the digital library as a platform. *OCLC Systems & Services*, *22*(2), 97-99. doi:10.1108/10650750610663969

Gonçalves, M. A., Fox, E. A., Watson, L. T., & Kipp, N. A. (2004). Streams, structures, spaces, scenarios, societies (5s): A formal model for digital libraries. *ACM Trans. Inf. Syst*., *22*(2), 270-312. doi:10.1145/984321.984325

Jindřich, M. (2009). Creating document management system for the digital library of manuscripts: M-Tool and M-Can for Manuscriptorium. Presented at the *TEI 2009 Members' Meeting*, University of Michigan. Retrieved from http://www.tei-c.org/Vault/MembersMeetings/2009/files/TEI_MM_2009_MSS_SIG_Marek.pdf

The ENRICH Project and Non-Standard Characters. (n.d.). Retrieved from http://www.manuscriptorium.com/apps/gbank/docs/ENRICH%20Gaiji%20Bank.pdf

Uhlíř, Z. & Knoll, A. (2009). *Manuscriptorium digital library and ENRICH project: Means for dealing with digital codicology and palaeography*. Universität zu Köln. Retrieved from http://kups.ub.uni-koeln.de/volltexte/2009/2961/

Voss, A. & Procter, R. (2009). Virtual research environments in scholarly work and communications. *Library Hi Tech*, *27*(2), 174-190. doi:10.1108/07378830910968146

Library Highway: Secret of Library Professionals

Jurgita Rudžionienė
Vilnius University, Faculty of Communication, Vilnius, Lithuania. Email: jurgita.rudzioniene@kf.vu.lt

Ina Puzakinaitė
Vilnius University, Faculty of Communication, Vilnius, Lithuania. Email: ina.puzakinaite@kf.stud.vu.lt

Eglė Audzevičiūtė
Vilnius University, Faculty of Communication, Vilnius, Lithuania. Email: egle.audzeviciute@kf.stud.vu.lt

Abstract: *Redesigning library work in the 21st century is both a challenge and a must. Significant changes are being done not only in the libraries themselves, but in all information handling professions. We now have got so called new generation libraries and we also got new generation librarians. What is the story of those professionals, who had seen it all the way - from a very old fashioned start till the very modern present?*

Our idea is to find out how the professional librarians have changed together with the libraries they work for many years. Due to this, the empirical research has been made. This research reports the results of the study that uses data derived from actual observation. The observation consists of several steps.

The first step is to choose the best public libraries in Lithuania. The selection is being made according to the huge project, "Libraries for Innovation" results. Five main winners were chosen that were prized as the most modern, well-equipped and best rated public libraries. During this project, duration was 4,5 years, 1276 public libraries received technical equipment; they were equipped with broadband internet connection. All libraries were included in the training activities of specialists and visitors, encouraging electronic service usage and consulting.

The second step is to choose librarians with the biggest working experience representing those chosen public libraries. For this purpose a statistical survey through best libraries data will be used.

The third step is to make a qualitative study. For this case, a special questionnaire has been presented to the selected librarians. The research is about to show professional and personal changes due to modernized library as social information and communication institution. The research shows how individual contact between a librarian and a user has been replaced by IT and other technological changes and what impact it has made to professional librarians.

Keywords: *Changes, librarians, new generation, IT.*

Introduction

There is no doubt that libraries play a very important role in our society. Even nowadays when people are so in hurry, library provides all the necessary privileges - you can have access to a wide range of materials and services.

Public libraries are the most intensely used cultural institutions in the regions of Lithuania attracting thousands of people each year. However we all know that the past decade has made a lot of changes to libraries: they have become a unique public service network that is serving different purposes, including development of the digital skills of all Lithuanians, especially socially vulnerable groups, supporting social integration, providing access to e-government information and other e-services. Due to these changes, the information professionals - librarians - had to change as well. Therefore the empirical research was made.

Methodology

A qualitative method of analysis is used in order to fulfill the task - to find out how long career librarians overcome all the changes in libraries. The qualitative research was chosen because it helps to go deeper into issues of interest and explore nuances related to the problem at hand. Therefore, a special questionnaire consisting seven fundamental questions was created in order to find out librarians working time and the main changes in libraries they experienced. Each question has several possible answers and a possibility to express

own opinion. The main purpose of this research is to find out how the professional librarians have changed together with the libraries they work for many years.

The survey: The questionnaire was focused on questions, which aimed to show librarians, who have biggest working experience, relations with their working place. The respondents were asked about most significant information technology changes, about the workload after installing e-services in their libraries. In addition to this, it was important to find out where librarians have to concentrate most after libraries were modernized and almost totally concentrated on IT. Also, the questions about additional skills improvement and changes among librarians and readers were asked

The process of investigation: The questionnaire was send to five best public libraries in Lithuania in order to interview their employees. 65 questionnaires were received. The selection for libraries was made according to the huge project „Libraries for Innovation" which was created for public libraries by Ministry of Culture of the Republic of Lithuania, the Lithuanian National Martynas Mažvydas Library and the Bill & Melinda Gates Foundation in 2007. The key aim of the project "Libraries for Innovation" was to achieve, through strengthening and using public libraries capacities, a considerably better use of information technologies among Lithuanian people, especially in rural areas and among social risk groups, in order to obtain information and communicate. Within three years most of the Lithuanian public libraries have launched free of charge public Internet services and librarians digital competences were improved substantially, which now allow libraries to be a powerful medium helping people and communities while mastering and using information technology capacities. The libraries which participated in our research were prized (on event "Modern society - an innovative library" organized by project "Libraries for Innovation") as the most modern, well-equipped and best rated public libraries. These libraries are:

- Utena A. and M. Miškiniai Public Library
- Marijampolė Petras Kriaučiūnas Public Library
- Povilas Višinskis Šiauliai County Public Library
- Kaunas County Public Library
- Vilnius Municipal Central Library.

The heads of the libraries collaborated in this research in spreading the questionnaire among librarians, who has been working in the libraries for many years and might have seen and went through many changes.

Research Results

Information Professionals as Change-Agents Dimension

First of all, it came out, that most of respondents (37%) have a very long working experience - they have been working for 30 and more years. The longest working experience was 53 years. This means that librarians have seen a lot changes and had to change as well.

Designing New Library Spaces Dimension

What is more, respondents identified, that during last decade, the most significant change in their work, were changed and working place - they see good software and hardware as a very important change in the library. Also, a lot of respondents pointed out, that digitalization of books and other items, is also a very important change, that had at some point turned library upside down.

Serving Society in a Digital Age Dimension

What is more, according to respondents, after installing e-services into the library, the workload has increased, because librarians have to take care about e-service and put a lot of efforts for them to develop. This section includes not only working with technology but also working with internet facilities. Here all the social networks, such as Facebook, Twitter and the web site of the library, must be mentioned. Apart from taking care about e-service, librarians identified that still they work a lot on various events in their libraries, such as books presentations or meetings with writers, but even this sections includes technology and work with internet. Creating events and sending online invites is much easier now and attracts much more people to come to the library.

Developing New Competencies Dimension

In addition to this, it came out, that librarians, who work in libraries for many years, had to improve their skills in order to be able to work with computers, internet or other technologies. Due to this, more than half (54%) respondents attended special qualification courses and received certificates that enable them work with IT service. Other respondents indicated that they are involved in the never ending learning at the library - each day they find something new because they surf the internet, read about international experience, go to conferences or communicate with other libraries.

Mobile Information Services Dimension

What is more, it was important to find out, how new services in the libraries have changed relations among librarians and readers. The old fashioned libraries had pretty strong interaction between readers and libraries because there dominated real communication between working staff and people who visit libraries. Now, after people can order their books or other items online and use special technology for taking and bringing books, the relations must be different. According to librarians, the relation has changed a lot, but they see it as a positive change. The librarians themselves have more time and are able productively spend it for helping readers, even if that help is online. Also, it was mentioned, that nowadays readers look at the librarians from different perspective as well - they see as the professional who give readers all necessary directions in order to find this or that. The online relation is not seen as negative interaction - on the contrary, librarians enjoy being able to work in a modern and fast way.

"From Collections to Connections" Dimension

Finally, it was very important to get to know, how the image of librarians has change according to themselves. Most of the respondents marked that the image has improved a lot. The librarian is no more seen as an old fashioned profession, which is meant only for book lovers. Some respondents notices that a librarian of nowadays is a teacher, who must have a lot of knowledge to give all the proper help to the users. Other respondents noticed that being a librarian is no more seen as a boring profession, where you put books from one shelf to another - according to them; nowadays librarians receive much more respect from readers. Not only they have to be very modern and have a lot of knowledge, but also super social in real and online work.

Conclusions

The research was anonymous and gave very clear and opened results. This is because qualitative research and the questions were constructed in a very correct way - the answers helped to explore the issues and to understand the phenomena.

All the answers have been systematized and put into detailed charts and schemas. All the results with special comments are presented during international conference "Bobcatsss 2013" in Ankara.

The outcomes of analysis give clearer view about significant changes in libraries and its impact to the librarians. Because of libraries daily work format changes librarians had to adapt and learn more new things, like working with computers and serving readers using new technologies. At some point it shows the secret of professional librarians that work in libraries for more than 30 years. That being a professional in library and opportunity to provide the best service cost a lot of efforts. Such as special qualification courses which enable librarians work with IT service and at the same to teach users how to use it. Also to create new communication habits, from talking face to face, to relations between librarian and reader online. These findings might be useful for many libraries in Lithuania and outside it border, to understand better how work style in libraries changed and to maintain better working conditions. This research results might be important for the librarians and their future in the library.

References

Bawden, D. & Robinson, L. (2012). Introduction to information science. *Facet Publishing,* p. 351.

Cicėnienė V. (1998). Skaitytojų aptarnavimo tyrimai [Lietuvos nac. M. Mažvydo b-koje]. *Kultūros Aktualijos, 5,* 5-6.

Denzin, N. K. & Lincoln, Y. S. (2005). Introduction: The discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.)*, The Sage Handbook of Qualitative Research* (3rd ed.), pp. 1-33. Thousand Oaks, CA: Sage. ISBN 0-7619-2757-3

Joseph J. (2002). Digital reference: Reference librarians' experiences and attitudes. *Journal of the American Society for Information Science and Technology, 53*(7), 549-566.

Libraries for Innovation: Changes in the Library and in the Society. Report on the Impact Assessment Studies 2008-2012. Prepared and published by Martynas Mažvydas National Library of Lithuania. Retrieved July 25, 2012 from http://www.bibliotekospazangai.lt/media/public/Atsisiuntimui/TyrimuAtaskaitos/WEB_ENG/2011/2011_Report_Summary.pdf

Lithuanian Public Libraries: Preserving, creating, cooperating. *Prepared and published by County Public Libraries Association in cooperation with: Lithuanian Librarians' Association.* Retrieved September 11, 2012 from http://www.klavb.lt/leidiniai/County%20public%20libraries%20association.pdf.

Mila M. R. (2007). *The role of librarians in the 21st century*. Paper presented on June 8, 2007. Retrieved July 20, 2012 from http://www.slideshare.net/plaistrlc/the-role-of-librarians-in-the-21st-century

Serving Library Users by Effective Communication Ways in Loughborough University Library

Márton Németh
Digital Library Learning (DILL) International Master Programme, Oslo and Akershus University College of Applied Sciences. Email: nemethm@gmail.com

Abstract: *Loughborough University Library has various electronic ways in which it can communicate with users (Facebook, Twitter, Blog, e-mail, plasma screens, and Library web page). These tools are a part of a complex customer centered communication and marketing strategy based on the message, style and tools of communication. The focus of the internship project is to explore the inter-relationship between these approaches and to establish better service levels for the customers. Work will also take place on how the communication of different information and services can be targeted at various customer segments. Another main focus of the project would be to assess what users wish to communicate with each other and interaction with the Library staff (both digitally and face to face). The number of enquiries received at the Library desks are going down and it needs to be established why this is the case as part of library service context. The project ran from October 2012 until December 2012. The paper will present a summary about the findings. The whole project is appearing in a context that university libraries have to build up strong social connections towards their academic community to serve them in the most effective way, especially in an economic climate where limited amount of resources are available and are competing with many funding demands.*

Keywords: *Loughborough, academic libraries, strategy, service development, customer.*

Introduction

This paper is a summary of some experiences during practice-based internship project by the Digital Library Learning Program that ran in the Loughborough University Library from October until December, 2012. The main topic covers the various forms and tools of digital communication with library as well as in the building. The main focus has two important elements: firstly concentrating on the use of the proper library communication in the context of a comprehensive communication and marketing strategy; secondly concentrating on the effective style, content and tools of the communication with library customers. There is a general context of this investigation where the academic libraries have to position themselves in the public policy and social arena for serving the users' needs. With a limited amount of resources libraries have to find the optimal ways to reach this goal. All kinds of communication, marketing and branding efforts must have a customer-centered scope. The library has become a major part of the university image and service range in both the physical and virtual environments. The users are justifying the library service efforts by their presence in the physical and virtual library room. There is a major turn nowadays towards a connection-orientated library management by positioning the library to best benefit an academic community. The traditional collection orientated approaches seems to be less and less relevant in order to operate a successful and well-functioning institution. The library is serving the customers with all of its physical and virtual collection. The development policies should follow this main principle.

Communication, Marketing, Branding, Service Management in the Context of a Customer Based Single Institutional Strategy

From the virtual interface side we could notice that Loughborough University Library has various ways in which it can communicate with the customers (Facebook, Twitter, Blog, e-mail, plasma screens, and Library web page). A common customer-centered strategy needs to be established in order to effectively and efficiently manage the communication message, the style and the tools. The use of tools is just a segment of a comprehensive communication and marketing strategy and cannot be overestimated above the other elements. A major challenge is that these tools are not fit enough to a comprehensive communication and marketing strategy and handled as individual segments by responsible persons. The communication within the library towards the content of the social media tools could be really inadequate as a result.

The second main focus of the project work was in this context based on how suitable an academic library can communicate by different topics targeted to various customer segments. The primary point what users wish to

communicate with Library staff about (both digitally and face to face) and vice versa. This was a major topic because the enquiries received in the Loughborough University Library are going down and it needs to be established why this is the case. This complex internship project was supervised by Dr Graham Walton (Head of Planning and Resources) and Matt Cunningham (Head of Customer Services).

The paper covers some examples on a brief way you can find as an answer to the communication challenges. These challenges strongly correlate with the main social mission of academic libraries towards their main target groups. The information behavior of the users has permanently changed as the information environment has radically transformed around us. The libraries are under double pressure in this way. They have to offer attractive communication tools towards the users. The success of these tools however depends on the intensive effectiveness of the different modes of use! Interplay of the different tools in a common communication strategy can be a major segment of the success by library efforts. In this case Loughborough University Library offers so many kinds of opportunities for interaction with the users in the physical space and in the social media. It would like to build up a strong social position by serving its community. The problem is appearing sometimes in the field of the practical effectiveness of the communication strategy. The interplay among the different communication tools sometimes seems to be not working properly. By the number of the information queries, the library has become less and less attractive. However it is really ambiguous to observe a problem by just one indicator! The success of the new, simple, user-friendly and comprehensive virtual catalogue with a full-text database and complex virtual interface is also responsible for the lower amount of queries at the library! The physical building of the library is always full, the community demands are growing. The whole building of the library (built on the 1980's to a much smaller amount of academic community) has to be rebuilt and rearranged in 2013. The library is well branded, respected by its users and is positioned towards the student and academic environment. It has just been awarded the Customer Service Excellence Award by an independent government accredited evaluation standard. The communication and marketing of the institution is using almost all the available ways in the physical and virtual environment. Colleagues and I visited various academic libraries in the East Midlands of England. The working plan from Libraries and Learning Resources in Nottingham is especially useful to describe the suggested future activities towards a more customer oriented library. Furthermore in a literature review I found additional examples of possible ways to make the library services, communication and marketing more customer-centered and effective (Walsh, 2012, Hahn & Morales 2011). Academic libraries can learn a lot from each other. Loughborough University Library is one of the most successful institutions that could transform its whole environment to a connection-based scope from a collection based one. I would like to highlight some elements of these efforts in the next chapter. At the same time, I would like to point out to some challenges that are appearing through the appearance of this new kind of institutional practice and behavior as well.

Communication, Marketing, Service Management in a Customer Orientated Academic Library Context in Loughborough

We have to handle the different kind of services in an overall customer-friendly context. It was not clear at the start that the efforts to raise the effectiveness of the cataloguing system in Loughborough would reduce the number of enquiries. The students may have become a bit complacent using an integrated catalogue and full text interface. They are not asking for more specific information that appears in the full-text resources not linked to the integrated full-text catalogue display because of contractual reasons. For the academic staff this new tool is too simple, difficult to customize and many of them have fairly negative opinions about it in contrast to the students. It is also an interesting challenge as you have to plan services into different segments of the academic community.

The borrowing statistics show in Loughborough the results of an effective collection policy. The book and journal holdings are really limited because of the lack of space. However, these are well-used and required by the customers. Sometimes they want the physical copy instead of e-book copy. Some users do not like e-books due to the copyright restrictions facing. The library is facing off with demands handling e-books without hard DRM, more liberty that really depends on the publisher's commercial view, far beyond the library competencies. Keeping the e-journal list up-to-date and configuring the link resolver service well is also a point where an academic library depends on its commercial partners in an intensive way. The consequences of an un-seamless service are blamed on the library, even if it is the publisher's or aggregator's responsibility.

The Library is using RFID system for circulation. It has some really positive effects on customer side. As the circulation has automatized, the circulation desk could be abandoned. A new central integrated service desk has established staffed by the former reference and circulation desk teams. It has given the opportunity for a more effective enquiry service by specialists in different fields and staff available for answering the general

questions as well on a daily basis. The special librarians from collection management and from academic services also staff the new desk. Additionally, some members of the senior management are member of the user enquiry team on the desks to get some useful practical experience of customer interaction! I have never experienced that practice before and it points out to a key element of the customer-centered communication behavior in an academic library organization.

The institution has established a new web portal. The new library portal has become a part of the university content management system. On the other hand the portal has a strong individual profile. One of its main strengths is that it could amalgamate all the available library services and resources in a single environment. The new Ex-Libris Primo catalogue has also become a part of this portal system in a way. The analysis concentrated on the library services and not on the content resources available in the catalogue system (which includes many kind of external content holdings as well). The portal is highly interactive and integrates the entire library web 2.0 services into it. At the same time it is easily available from the central university portal and provides access to the interactive e-learning portal of the university and to other main service segments as well. The library appears as an important center of the university life in this virtual world. A detailed evaluation report was written during the internship (Aguayo, Szynkielewska & Nemeth, 2012) that described the main strength and minor weaknesses of the portal by a set of indicators defined by the authors.

On May 2010 a project report published by the Loughborough University Library about user behavior of social media (Barnet et al., 2010). A project team had formulated and focused on the following major issues: What kind of social media tools are used by the customers? What kind of hardware tools are they using to get and interact with social media content? Is there any relevance of using social media to the learning process and behavior of the students? The project and the report also wanted to demonstrate an important partnership between the Students Union and the University Library. From a library marketing communication point of view, it has become evident that the customers are using the formal library information tools and other university systems with the social media tools in a mixed way to support their learning. The students had to choose their favorite social media sites, the aim that they are using for it and the frequency of use in term time. When they are using them for academic purposes they had to specify also the exact academic aim they used them for. Facebook was marked as the most popular social networking site. It had taken a really dominant position. However, Wikipedia, YouTube and Twitter also appeared as popular sites in a minor level. On the second level YouTube is dominant (but not as overwhelmingly as Facebook in the first position) apart with Wikipedia, Facebook and iTunes. For academic purposes the Google apps had also appeared as favorite social media applications apart from the above mentioned sites. Facebook was used apparently also used to discuss work on that time. While Wikipedia appeared in the report as a primary tool to find resources, it also appeared in a surprisingly high rate for discussing work as well. Some interesting gender differences appeared about the devices that the students used for accessing social media content in the project. Around two-thirds of the male students used handheld devices to access social media content in some sense, while it was just around one-third of the females. A major comment by the students was aimed at the developers of the formal university and library information systems. They wanted some social media elements to appear in the formal sites and applications as well; more than one communication option with the lecturer/librarian (live chat included); provision of learning material in a range of format (recordings, podcasts); ability for user interaction and sharing, annotating resources by a more customizable interactive homepage interface; links to other resources (mashups) like Google calendar for modules, Google apps and learning should be integrated into Learn interface; Individual learn account should be merged with e-mail accounts, and greater awareness by academic staff about how to use the Web 2.0 tools by their teaching.

A number of recommendations close the report suggesting further actions. These focus on the customer's needs: more effective offerings through the learn interface by the academic staff; merging the social media literacy towards the customers; processes should be made for the integration of the information by university-based and external sites with social media info sources; the University should focus on more effective communication use of Facebook; greater awareness should be made of the proper use and offerings of the online discussion forums in the university systems, and finally a greater focus on the content available by handheld devices. This report is a really good starting point for further improvements in customer based communication-marketing field not just in university library field but in a broader sense by the whole university.

Another internal document strongly relates to the virtual library services. The BYOD@LBORO report by the IT Services Department of Loughborough University summarizes the most popular mobile platforms and describes the level of available support and mobile device management due to these platforms on a university wide basis. The Apple-based Macintosh and mobile platforms and the new hybrid Windows 8 platform by Microsoft can be well managed in a single support level as well as in configuration level towards different gadgets. The Android system is a much different case. It has become more and more popular with many kinds

of cost-effective gadgets. On the other hand, the high difference of platform versions and specific solutions for different tools takes much more effort by staff for support and device management unlike the other two more closed-type platforms. The University has established a good relationship with Google by using their web 2.0 based communication and education-helping solutions (Gmail, Google Docs and Google Drive etc.) which are customized for the needs of the local academic community. These services also appear as an integral part of the library service range in an effective way. The management of this Google service team could be possibly enlarged in the future to manage the Android-platform as well. The library has just announced an application on its website that offers a platform-free solution for all the mobile tools by accessing all the basic services of the library (Information about opening hours, loans, reading lists, bookings) in a highly personalized way for all the university customers. It also offers contacts towards the respective librarians. The library's news and events appears in this application as well. The catalogue has a mobile version too. The customer experience of these interfaces has been further developed, and is designed for the mobile environment as well (as it suggested in the 2011 report as a target of further actions). Another important point could be the future effective use of all the service opportunities of RFID and QR code technologies as (Walsh, 2012) described. It can offer some amalgamation of physical and virtual library services. RFID technology can be also used for an even more proper customer targeting of library information. Another aspect of RFID use is the community-building power; for example, by rating documents or sending messages or document suggestions to each other by the academic community.

Conclusion

In this really brief summary I wanted to highlight some really important issues about library service development, marketing and communication issues, using the perspectives of turning academic libraries from collection orientated to connection orientated places. It is still an on-going process, with several challenges even in the most developed countries in this field. The direction, however, is clear: in my opinion, there is no other way ahead.

References

Aguayo, I., Szynkielewska, M., & Nemeth, M. (2012). *Evaluation of the website of the Loughborough University Library* - report. Loughborough: Loughborough University Library.

Barnet, L., Collis, E., Narborough, J., Parry, F., Peel, C., Shields, C., et al. (2010). *Use of web 2.0 tools by students at Loughborough University*. Loughborough: Loughborough University Library.

Hahn, J., & Morales, A. (2011). A rapid prototyping a collections-based mobile way finding application. *Journal of Academic Librarianship*, *37*(5), 416-422

IT Support Team, Lougborough University. (2012). *BYOD@Lboro* (bring your own device at Loughborough University) No. 2. Loughborough: Loughborough University.

Libraries and Learning Resources: Work Plan. (2012). *Nottingham Trent University Library*. (Eds.) Unpublished manuscript.

Matthews, G. (Eds.). (2013). *University libraries and space in the digital world*. Ashgate.

Walsh, A. (2012). Blurring the boundaries between our physical and electronic libraries: Location-aware technologies, QR codes and RFID tags. *The Electronic Library, 29*(4), 429-437.

Application of Computer Mediated Communication in the Delivery of Virtual Reference Services

Muharrem Yılmaz
Hacettepe University, Department of Information Management, Turkey. Email: yilmaz.muharrem@gmail.com

Tolga Çakmak
Hacettepe University, Department of Information Management, Turkey. Email: tcakmak@hacettepe.edu.tr

Nevzat Özel
Ankara University, Department of Information and Records Management, Turkey. Email: nozel@ankara.edu.tr

Abstract: *Internet technologies have facilitated libraries, communication with patrons. Reference services have become virtual and more effective. Today, most of library reference services have virtual reference applications. There is an increasing connection between Virtual Reference Service and patrons. Libraries have been accomplishing the transmission from traditional to digital medium and adapting to the new technologies. Traditional form of reference services has also moved to computer-mediated form, and libraries have started to communicate with patrons through many different communication tools and channels, synchronous and asynchronous. In today's libraries, computer-mediated communication (CMC) has an important role and Virtual Reference Services (VRS) fits in CMC. CMC connects library users to reference librarians over the Internet.*

This study reviews the virtual reference services in the context of CMC. The case of the research illustrates the virtual reference service in Turkish University Libraries through addressing current issues concerning the evaluation, sustainability, and, ultimately, the relevance of Virtual Reference Services for university libraries. Furthermore this research will investigate on future perspectives of librarians towards VRS.

Keywords: *Virtual reference services, computer mediated communication, university libraries, Turkey.*

Introduction

The reference service is one of the most significant parts of the library services since it is the connection point between users and librarians for all kind of libraries. Communication, face to face (F2F) or virtual, between library users and reference librarians is the key element for libraries to deliver the information to user. Computer networks and Internet technologies pave the way of accessing online library facilities and the transmission of information become easier than ever.

In today's libraries, CMC has an important role. As Chilton and McHaney (2009) mentioned, Computer-assisted communications have a great role in society as the cost of technology declines, the communications infrastructure grows, the cost of face-to-face meetings increases, and social pressure to communicate and network with others more efficiently increases. Authors defines CMC as a field that studies the use of computers and related technologies as a means of facilitating human communication and "mediate" implies reliance upon a third party or entity to enhance the information flow between two or more people (Chilton & McHaney, 2009).

In the last decade libraries have been accomplishing the transmission from traditional to digital medium and adapting to the new technologies. Traditional form of the reference services has also moved to computer-mediated form, and libraries have started communicate with patrons through many different communication tools and channels synchronous and asynchronous. Virtual reference services have become a reality and are an active part in the evolution of the library services on the Web. There is a number of definitions of VRS. One of the most common definitions was made by Reference and Users Services Association (RUSA). RUSA (2004) defines virtual reference as a: -reference service initiated electronically, often in real-time, where patrons employ computers or other internet technology to communicate with reference staff, without being physically present.

Background and Literature Review

With increasing availability of digital libraries and digital information resources reference services has altered the way of delivering information services. Many libraries are in transformation and accepting facilities/challenges of technology. Libraries and librarians are preparing themselves for the inevitable shift of communicating with users online. The world of the libraries is changing, and so is the reference librarian. As more and more patrons go to the Internet first to meet their information needs, libraries must be there to help them locate and obtain relevant information (Kresh, 2002, p.20). Nowadays students are digital natives: individuals who have grown up immersed in online media and who are well-adapted to CMC (Romiszowski and Mason, 2004) thus adaptation of CMC in library reference services should be taken into account.

Virtual Reference (VR) is a type of Computer Mediated Communication (CMC) that gives library users access to reference librarians over the Internet (Deangelis, 2010). Virtual reference and several of its equivalent terms, e.g., digital reference, electronic references are the new terms for modernity leading the reference services into the new information age.

Virtual reference services may provide better understanding in teaching activities for users to search on their own than traditional reference services: it shifts the control of the reference interaction away from the librarian (Gronemyer & Deitering, 2009).

At the same time the central question for virtual reference is "How can human expertise be incorporated effectively and efficiently into information systems to answer information seekers' questions?" (Lankes, 2004) and whether librarians have the skills and the attitude necessary to help patrons learn in the virtual environment (Gronemyer & Deitering, 2009).

Research Design

This study aims to evaluate VRS in university libraries where it is widely used by researchers and students. According to determined aim, this study reflects a research that conducted in university libraries in Ankara, İstanbul and İzmir, Turkey.

This study identifies the VRS provided by university libraries in Turkey. The research is a case study which particularly demonstrates the current applications of VRS and explores future perspectives of librarians towards VRS according to description method that is widely used in social science.

In this respect the research questions of the study that seek to determine the awareness application of VRS delivery and computer mediated communication in university libraries can be described as follows;

- What is the current situation of application of VRS in university Libraries?
- What is the efficiency level (including capabilities, perspectives and approaches) of VRS provided by university libraries?
- Which steps should be taken by librarians and library managers for the development of VRS in university libraries?
- What are the perspectives of reference librarians towards future of VRS for the next five years?

Data Collection

In parallel with research design and with the aim of gathering data from target group an online survey carried out with librarians who work in university libraries. In order to get depth knowledge for the research objectives the questionnaire is designed to gather both qualitative and quantitative data therefore it also included some open ended questions. The online questionnaire was disseminated to reference librarians via email. Email addresses of reference librarians were collected from web pages of university libraries in İstanbul, Ankara and İzmir. The survey generated 30 responses from 23 libraries however; two respondents provided their opinions about the topic and the situation of their libraries by replying email. According to these replies, two university libraries don't have VRS yet.

Sample of the research were gathered among several university libraries (state/private) from 3 biggest provinces (İstanbul, Ankara, İzmir) that are potentially providing virtual reference services to a large number of users in Turkey.

The research instrument consists of nineteen questions including 10 likert scale and 9 multiple choice and rank order questions. Additionally, quantitative data were gathered via three open-ended questions. The data

gathered via above mentioned instrument represents VRS and CMC approaches in 23 state and private universities and perspectives of reference librarians on VRS. University libraries that investigated in this research are displayed in Table 1.

Table 1. University libraries that are researched within the scope of the study

Universities
Ankara University
Atılım University
Başkent University
Bilkent University
Boğaziçi University
Doğuş University
Dokuz Eylül University
Hacettepe University
Haliç University
Koç University
Middle East Technical University
Piri Reis University
Sabancı University
Kadir Has University
TED University
TOBB University of Economics and Technology
İstanbul Ticaret University
Özyeğin University
Üsküdar University
İstanbul Bilgi University
İzmir University of Economics
Mimar Sinan Fine Arts University
İzmir Katip Çelebi University

There were 23 university libraries that participated in the research. 8 (58%) out of 14 university libraries from Ankara, 12 (31%) out of 39 university libraries from İstanbul and 3 (38%) out of 8 university libraries from İzmir were represented in this research. The contributions from İstanbul were not much, because most of the universities in İstanbul were founded in 2011 and 2012 and they may not have an active and efficient reference services yet.

Among the sample 6 of the universities are state universities, 17 of them are private universities. The descriptive statistics for test-beds discovered that, the two thirds (66.7%) of university libraries provide VRS while 33.3% of them do not implement VR services. According to results reference services are generally provided by 0-2 librarians in almost half of the university libraries (48%). 43% of the libraries have 3-5 librarians and 9% of them have 6-8 librarians in reference services.

Data Analysis

Qualitative findings obtained via the questionnaires within the scope of the research were analyzed using the program PASW (Predictive Analytics Software). Data that were gathered via questionnaires matched with forty six variables in PASW Software and cross-tables and descriptive statistics were used for analyses. Furthermore, quantitative findings were analyzed and reported by coded according to their topics and their similarities. In this section, some opinions of reference librarians that reflect current situation for VRS and CMC were reported.

Results

General Overview

In the beginning of the survey usage level of VRS (based on statistics) in libraries was identified by a Likert Scale question (1 to 5). According to results, in many university libraries (40.7%) the usage of VRS among users are in Medium (Fair) level. The usage of the VRS in 18.5% of libraries is in Good Level whilst in 22.2% of them the usage of the services is in Poor Level. In some (18.5%) libraries the usage is in Very Poor level.

Perspectives of Library Administration towards provision and development of VRS were investigated via another five scale Likert question. According to mean value (3.4), managerial perspectives for developing and

providing VRS range between Fair (21.4%) and Good (25%) levels as it is displayed in Table 2. Plus, more than half of the reference librarians (53.6%) stated that the managerial perspective for VRS is in Good and Very Good levels and more than one fifth (21.4%) of the reference librarians thought the managerial perspective on VRS is in mid-level. On the other hand some participants (25%) noted that the managerial perspectives for providing and developing VRS are in Poor and Very Poor levels.

Table 2. General overview on VRS perspectives in university libraries

	Very Poor	Poor	Fair	Good	Very Good	X	S
	%	%	%	%	%		
Usage Level of VRS	18.5	22.2	40.7	18.5	0	2.6	1.0
Managerial Perspective for VRS	17.9	7.1	21.4	25	28.6	3.4	1.4
Evaluation of technical facilities and capabilities	7.1	17.9	32.1	28.6	14.3	3.3	1.1
Effectiveness of Library in terms of VRS	14.9	22.2	33.3	25.9	3.7	2.8	1.1

The reference librarians were asked to evaluate the effectiveness of their own VRS. The results are demonstrated in Table 2. One third of the respondents (33.3%) considered the effectiveness of the VR services which provided by their libraries as fair. Some librarians (25.9%) stated that the VRS is in Good Level in terms of effectiveness while some of them (22.2%) in Poor Level.

Most of Librarians (32.1%) stated that technical resources for developing and presenting of VRS are fair. 28.6% of the participants considered the technical requirements are good as 14.3% of them considered it as Very Good. Some participants (17.9%) stated that the technical resources are in Poor level 7.1% of them found it as Very Poor.

Awareness

The awareness for VRS was revealed in different stakeholders. First, awareness of Library Administrations towards VRS was investigated from Librarians point of view. As it can be seen in the Table 3, the awareness of Library Administration towards VRS is considerably high (22.2%, Good / 22.2% Very Good).

Table 3. Awareness of Library Administration, Students and Reference Librarians

	Very Poor	Poor	Fair	Good	Very Good	X	S
	%	%	%	%	%		
Managers	14.8	14.8	25.9	22.2	22.2	3.2	1.3
Students	14.3	32.1	28.6	25.0	0	2.6	1.0
Faculty	14.3	28.6	32.1	25.0	0	2.7	1.0
Reference Librarians	10.7	0	14.3	35.7	39.3	3.9	1.2

Secondly, users' awareness was questioned. In the questionnaire users group were classified as students and faculty to have understanding on awareness of VRS. When asked "What is the level of awareness among students towards VRS" many respondents stated that awareness of VRS among students is not very high. 28.6% of respondents indicated that awareness among students are in Fair level, while 32.1% stated that level of awareness is Poor and even 14.3% stated that it is in Very Poor level. However; some respondents (25%) mentioned that awareness level among students is in Good Level. The survey results also demonstrated that awareness of the VRS is quite low among academics. As displayed in Table 3, majority of Reference Librarians (32.1%) stated that awareness among academics is in Poor Level.

Lastly, the question regarding awareness was directed to Reference Librarians to find out whether they are aware of VRS features in general and developments in VRS regardless of their current VRS applications. Most of the reference librarians (39.3%) believed that they are aware of developments in VRS facilities and features.

Reference Service Perceptions

Librarians were asked to rank (from 1 to 5) which Reference Services Methods and which VRS Channels are most preferred by their users via a matrix questions. The ratings related to perceptions are displayed in Table 4.

The results revealed that Face to Face referencing is not very common way for reference services in some university libraries (32.1%), while it is frequently in use for some libraries (35.7%). It was also sought which communication channels were preferred by users, as it is demonstrated in Table 4, Email service is most frequently preferred (1st, 14.3% - 2nd 21.4%- 3rd 32.1%) communication channel to submit enquiries electronically to reference services. According to the results users also preferred to use Social Networks

(Facebook, Twitter etc) (1st, 14.3%- 2nd 7.1%- 3rd 3.6%), Web Based Forms (2nd 10.7%- 3rd 17.9%) and Instant Messaging (Meboo etc.) (1st 7.1%- 2nd 3.6%- 3rd 10.7%). Apart From these virtual tools, users also prefer to get help from Reference services via Telephone (1st 3.6%- 2nd 21.4%- 3rd 21.4%), FAQ (1st 17.9%- 2nd 10.7%) and SMS (2nd- 7.1%).

Table 4. Rank order of reference services method

RS Method /Rank Order	Not ranked	1st	2nd	3rd	4th	5th
	%	%	%	%	%	%
Face to Face	3.6	32.1	10.7	7.1	10.7	35.7
E-mail	10.7	14.3	21.4	32.1	17.9	3.6
Telephone	10.7	3.6	21.4	21.4	32.1	10.7
FAQ	50	17.9	10.7	0	10.7	10.7
Social Networks	50	14.3	7.1	3.6	7.1	17.9
Web Based Forms	60.7	0	10.7	17.9	10.7	0
Instant Messaging (Meebo.. etc.)	60.7	7.1	3.6	10.7	10.7	7.1
Blogs	96.4	0	0	0	0	3.6
SMS	92.9	0	7.1	0	0	0
Video conference tools (Skype, Hangout. etc.)	100.0	0	0	0	0	0
Wikis	100.0	0	0	0	0	0

Table 5. Reference service usage

RS Usage /Rank Order	Not ranked	1st	2nd	3rd	4th	5th
	%	%	%	%	%	%
Databases and access to electronic resources	10.7	32.1	17.9	7.1	10.7	21.4
General (Library usage rights, working hours...)	25.0	25.0	25.0	14.3	3.6	7.1
Information needd for a research or a reference	21.4	3.6	17.9	28.6	21.4	7.1
Finding a known item	25.0	7.1	14.3	14.3	32.1	7.1
Resource usage and technical support	46.4	0	7.1	17.9	10.7	17.9
Reference services for citations	67.9	14.3	3.6	7.1	3.6	3.6
Daily information needs	57.1	7.1	3.6	3.6	10.7	17.9
Other (please specify)	100.0	0	0	0	0	0

Table 5 demonstrates the responses for the questions of "Which types of Reference Questions are usually submitted by user to reference services through using electronic media". As results show 'Databases and access to the electronic resources' (32.1%) took place in the top of the list. 'General and Ready Reference Questions' such as borrowing rules and working hours follow as second (1st, 25% - 2nd 25%) and 'Information need for a research or a reference' is in the third places. Table 6 shows the communication tools used for reference services.

Table 6. Communication tools used for reference services.

Communication Tools /Rank Order	Not ranked	1st	2nd	3rd
	%	%	%	%
E-mail	10.7	32.1	35.7	21.4
Social Networks (Facebook, Twitter, etc.)	39.3	17.9	25.0	17.9
Chat (Embedded software or via web pages)	46.4	21.4	14.3	17.9
Instant Messaging (Messenger, Skype, etc.)	57.1	14.3	10.7	17.9
SMS	85.7	3.6	3.6	7.1
Blogs	89.3	0	0	10.7
Wikis	96.4	0	3.6	0

According to respondents, Email is the most ideal way to provide Reference services (32.1% - 35.7%). Social Networks (1st 17.9% - 2nd 25%) and Chat (Embedded software or via web pages) are also considered as ideal ways of communication with users. Instant Messaging (Messenger, Skype, etc.) is also mentioned by librarians as an ideal communication channel.

The results revealed that Librarians usually reach to users via Library Web site (82.1%) to inform them about VRS facilities. User training/orientation (82.1%) is also one of the most frequently used way to update the users about the VR services. Library News Bulletin, Library Guides and Librarians on desk play role to publicize the VRS among users.

Skills, Competencies, Expectations and Improvements

In the end of the survey, future expectations, improvements and required skills and competencies for efficient VRS were asked to the participants as three separate open ended questions. Quantitative results obtained from these questions were classified and coded according to their similarities. In this context, some librarians shared their opinions regarding future expectations for VRS and their libraries as listed below:

> *....It is very difficult to evaluate next five years with this quickly changed world. However in my opinion most of the today's F2F reference services will be transmitted into virtual environments completely...*
>
> *...Virtual services will be the most important services within the scope of Library Services. Awareness-raising activities are very important not only for librarians but also for users…*
>
> *...administrative perspectives and approaches are extremely important for providing these services and creating best-practice environments for VRS...*
>
> *...it is difficult to talk about the next five years of VRS, especially today's rapidly changed world. I believe most of the F2F reference services will be provided by virtual environments. In this context requirements for keeping libraries up-to-date will create important challenges and opportunities...*
>
> *...VRS will be more widespread information services for libraries and physical reference services will be replaced by VRS...*

Skills and competencies of reference librarians to provide efficient VRS were also investigated via an open-ended question. According to librarians' opinions a reference librarian should have the following skills and competencies for efficient VRS: IT skills, Communication skills and public relations, Information literacy skills, Problem-solving skills, Decision making skills, Language skills, Critical thinking skills, Time management skills, keeping up with innovations.

In the end of the open-ended questions, existing structures of the VRS were examined and some recommendations were made by reference librarians for the improvement of VRS. These recommendations can be listed under the following headings; Marketing and promotion of VRS to increase awareness, Social media marketing, Policy developments and implementations, Trainings for reference librarians and users, Technological infrastructure improvements, Various communication and VRS tools, Mobile technologies, More user oriented services.

Conclusion and Recommendations

Today's VRS utilize various communication channels, yet the current primary modes of delivery for VRS are generally e-mail, telephone, and real-time chat communication. However as results displayed F2F referencing is still in highly used. In this study, it is found that VRS especially synchronous communication services are not entirely in use in all university libraries. Email service is most frequently used in many university libraries, and face to face reference services are in often used. Although many university libraries in developed countries offer synchronous communication to their users, the new media tools and new virtual communication channels are not very common for referencing in Turkish University Libraries.

Turkey has a great potential with its young population. Internet usage, especially social network usage is very common in the country (according to Internet World Statistics (2012) 30,963,100 Facebook users on Dec 31/11). Libraries should take into account that potential user groups are in the online platforms and create an opportunity for users to reach to reliable information in global information explosion.

Computer based education and CMC increasing in the Turkish community as it is in the world. Synchronous/asynchronous interactions and new communication methods have great impact on Education system. Libraries as an important part of educational life should design and update their services considering CMC developments.

Based on the usage statistics provided by librarians, current use of VRS among users are not in Good Level. Users should be encouraged to use VRS and to get benefit from services available in libraries. Libraries should reach the user groups as much as possible and inform them and market their services. Awareness of the user is not high level among users. It is important to make all user groups aware of the virtual reference service. On the other hand, libraries should create and develop marketing strategies to publicize the VRS.

Reference librarians should improve their skills and competences. Professional development and learning activities such seminars or workshop may be arranged to update the reference librarians about new developments in the field of VRS and information services. The findings pointed out that, almost all respondents believe that the future of the reference services will be much more technology donated and featured.

Further Research

This study was carried out at 23 university libraries in three biggest cities of Turkey. As a further study, similar studies can be conducted for the measurement of awareness in order to VRS implementation in university libraries. Extended version of this study can also be applied to all university libraries in Turkey and the results can be useful for reflecting VRS perceptions of reference librarians and making comparisons with those of other countries which utilize VRS implementation.

The users' expectations and perspectives are important for services when a library is developing a service, and it is definitely essential to look at the evaluation from a broader perspective. Therefore user‘s perspectives towards the virtual reference services would be studied.

References

Chilton, A. & Roger, M. (2009). Computer-Mediated Communication (CMC). In *Encyclopedia of Library and Information Sciences* (3rd ed. pp. 1225-1233). New York: Taylor and Francis.

DeAngelis, J. A. (2010). *Friction in computer-mediated communication: An unobtrusive analysis of face threats between librarians and users in the virtual reference context*. Unpublish Ph.D.Thesis, Rutgers, The State University of New Jersey. Retrieved March 16, 2012 from http://mss3.libraries.rutgers.edu/dlr/showfed.php?pid=rutgers-lib:27441.

Gronemyer, K. & Deitering, A. M. (2009). I don't think it's harder, just that it's different: Librarians' attitudes about instruction in the virtual reference environment. *Reference Services Review, 37*(4),421-434.

Internet World Statistics (2012). *World Internet users and population stats.* Retrieved December 6, 2012 from http://www.internetworldstats.com/stats.htm

Kresh, D. (2002). Virtually yours: Thoughts on where we have been and where we are going with virtual reference services in libraries. *The Reference Librarian, 38*(79-80), 19-34.

Lankes, R. D. (2004). The digital reference research agenda. *Journal of the American Society for Information Science and Technology, 55(*4). Retrieved March 17, 2012 from http://quartz.syr.edu/rdlankes/Publications/Journals/jasisdr.pdf.

Romiszowski, A. & Mason, R. (2004). Computer-mediated communication. D. H. Jonassen (Ed.). In *Handbook of Research for Educational Communications and Technology* (pp. 397-431). Mahwah, NJ: Lawrence Erlbaum.

RUSA. (2004). *Guidelines for implementing and maintaining virtual reference services*. Retrieved March 14, 2012 from http://www.ala.org/rusa/resources/guidelines/virtrefguidelines.

The Bookmobile Serving Society in a Digital Age

Laurits Thomas Rasmussen
Filmoplevelse.dk, Viborg, Denmark. Email: a03lara@gmail.com

Abstract: *Many library branches and in some municipalities mobile libraries have been closed as a result of centralization in connection to the municipal uniting and the economic crisis. While other municipalities elect to retain mobile library operating as a supplement or replacement of the library branch, the questions arises whether the bookmobile or mobile library can provide optimal library service and replace the branch as a meeting-place, especially in the countryside of the European countries. Is this the future library?*

The main findings are that there cannot be unilaterally identified geographic or demographic areas where mobile libraries are especially suitable. But the survey showed that the mobile library actually holds a versatility that makes it suitable for many areas and contexts, both in urban and in rural and remote districts.

Keywords: *Bookmobile, mobile library.*

Introduction

User or citizen or initiatives by local enthusiasts show that it can successfully preserve a failing branch or other form of library service. It may be the insertion of the mobile library-user-driven book café, open libraries, depots and collection points. An example where locals even went to fight for their library, Eskebjerg (DK), a village of 107 houses in New Kalundborg Municipality (DK). Here the residents had heard rumors and would later read in the paper that their library should be abolished. They had in the meantime formed a library group, who had decided to manipulate politicians, including through the collection of signatures. Surprisingly, the library group was that municipal Culture President never used the a library and never read books, but they got him and other politicians convinced that it would be very damaging to Eskebjergs continued development to close the library - which would residents' association meet? and day care mothers playgroup? Again, not everyone has a car and can ship for the main library, a bus for several hours. The branch in Eskebjerg and other of the municipality threatened closure of branches was preserved, but only by citizens' active indgriben. In Bredebro (DK) opened, the citizens' initiative, a book café in 2009 in the closed filial. In Bylderup-bov (DK) has a similar Book-café existed for 10 years, also created and powered on locals' initiative. This Book-café has experienced great local backing.

The focus of the project will significantly focus on the mobile library or the bookmobile, which had its heyday after the reform in the seventies, and it now seems, at least in certain areas that have had a renaissance.

As mentioned, arose from the merger of municipalities a revival of local democracy, by enthusiasts or enterprising citizens led to form non-political advice to promote developments in their particular village or rural area, ideally in cooperation with politicians.

The councils may have different names such as local councils, village councils, or it may be the consisting citizen or residents associations. In addition there are many places formed stock - Local Promotional Group, which is right significant, as they have the opportunity to apply funds through the EU and the local community.

It may be interesting to explore whether politicians cooperate with local councils and other local forums in connection with the settlement or development of library branches and mobile library service. And how can some municipalities have success with mobile library operations with increasing inspection and lending statistics, others dismantles mobile library of?

Based it solely on the economy, that is, political decisions, passivity in relation to the development of the library page, or lack of interest in library locals? Finally, there could be demographic differences in the development of the village and the populations it consists of? Is it able to attract talented people and families with children? Or rather, what steps can / should be done therefore will be included theories on the development of rural areas.

Problem

Since municipalities and in the context of the economic crisis is closed many public library branches and several municipalities are mobile library operation closed down, a trend that continues. It thus increasing distance to the library service prevents certain groups from their democratic right to the library's core services.

That is, there is no 'equal access for all', although the Commission of the Committee on Public Libraries in the knowledge society as one of their objectives are to "focus should be on libraries as a readily available offers for all". Several reports suggest that the bookmobile that the mobile library is popular, where it has replaced a branch.

It can be seen through increasing visitor and circulation. Could it be in the mobile library or the bookmobile options for flexibility and, or, not least as a social meeting place? Gunnar Lind Haase Svendsen notes that the report 'Public libraries after municipal reform' does not take into account social capital, and also does not distinguish between library service in the city and on land.

Based on the above will, through a survey of the current library service in rural areas, questioned the manner in which this operation is most appropriate in relation to library's core services and vision with a particular focus on mobile library process strengths and limitations.

How can the bookmobile / the mobile library serve as the rural /outskirts of Denmark's and Europe's future library branch, and what are the special characteristics of the mobile library, which specifically makes it suitable for operating / service these areas?

- Can the bookmobile replace library branch to be and venue?
- How can the bookmobile provide 'equal access' to the library's core services / services?
- Why is there a decline in mobile library stock despite its popularity? - And what library service put in place?
- Can identifies specific local areas where the bookmobile is the future of library services?- If so, what factors are particularly crucial for this library solution success?

Content Short

In theory section is based on the involvement of selected theories, each of which can support analysis process in relation to getting the problem illuminated from several angles in the work to achieve forward to a possible solution / a possible result of the problem.

For the empirical studies are chosen partly surveys and partly interviews through an approach from practice to support the process of analysis in relation to getting the problem highlighted by several angles in efforts to reach a possible solution / a possible result of the problem. There have been used relevant reports (and other relevant sources) tangent issue to supplement the thesis empirical data in relation to a critical analysis and discussion of the issue.

The analysis dealt with the political context of mobile library the terms of the municipal amalgamations 1970 and 2007. Then analyzed local communities and villages development in this period of time in order to examine the library service that will be the most optimal in these areas - the branch or the bookmobile. As many branches or will be closed, here has been made an empirical study through questionnaires and interviews to find out if the bookmobile can replace a branch in a satisfactory manner. These results are discussed in related to the selected other studies in the field. Based on this empirical study and discussion, the mobile library has been measured up against the selected analytical models. As rounded element made then suggestions on how a modern mobile library must be designed and arranged for, to live up to all the library's roles in knowledge- and experience-(adventure/event/bracing) society.

Results and Round off

Is the mobile library as the solution to library service in the outskirts of Denmark and other western countries? There is broad consensus that the bookmobile or mobile library is suitable for sparsely populate dare as, also as a replacement for the smaller, outdated branch, but so is the agreement also up. Where the problem comes in, especially when the branch has importance as a venue for the residents and associations, such Eskebjerg (DK).

In most cases acceptable to the termination of the lower branch for the bookmobile. Where 'Outcry' sounds, the prospect of abandonment of popular branches or branches that are fixed rooted in the local community. The solution is then in many cases to open libraries for large satisfaction of many, simply maintaining the actuation. In some cases, the branch was converted to Book-café with volunteer labor. In Sinding (DK) formed a group of citizens in 2010 their own library in protest against the lack of the bookmobile service. A mobile library which may yet be abolished (by questionnaire shows that Silkeborg (DK) libraries surrendered their last mobile library at the turn 2011). This library or this Book-café is now run solely by volunteers in cooperation with Silkeborg libraries that make materials available. It also happens that branch are transformed into custody, run by volunteers who Bårse (DK).

Very suggests that it is a matter of oppinion whether it is a branch or bookmobile, which is the best library services in local areas or both - and. That depends on whether the librarian's and politicians agree, and if they listen to locals or just cut through, or it alone is conservation reasons, decide. As the questionnaires and interviews, the bookmobile is very successful where it exists. Cardinal issue in the project is whether the bookmobile can replace the branch that be and venue.

According Dorthe Salling Kromann study about half of the users only the bookmobile to borrow and return materials, whereas the majority of branch users staying more than five to ten minutes at the library, so these figures may the bookmobile not make satisfaction as drop-in center to the same extent as the branch. Where the bookmobile particularly suited as a meeting place in neighborhoods where residents know each other and use the meeting in the bookmobile to exchange of contracts. Be it child care, institutions, barbecues, the best times for Zumba training etc. In addition, knowledge sharing takes place in exchange of experience on the read or borrowed materials at all.

The bookmobile would act as social meeting place, evidenced by the many positive statements from questionnaires and interviews. The close relationship, there are several places pointed out user - staff from, which means that users becomes talkative and unload' at the staff and the trust users have for each other so that they can safely leave luggage outside the bookmobile, also testifies to the significance mobile library as a social meeting place. The question of the bookmobile can provide 'equal access for all', the answer is positive. The modern mobile libraries are small mini-libraries, both in terms of design, material and equipment components. What it really is about, is to be taken to reach out to all potential users, including those who for some reason am not able to frequenting the stationary library, or those who do not have the courage or tradition to search the library. It may be residents of disadvantaged neighborhoods and immigrant neighborhoods. Here, near the bookmobile and availability be important, but it can also be, as mentioned in the interview from Brønderslev (DK) and comments from Vordingborg (DK).

The bookmobile or the mobile library ought all things considered to have a future in combination with the different branch solutions. As for the future of the mobile library outskirts of Denmark and other western countries has to consider the possibility of replacing local branches with a mobile library. Perhaps follows more for when the six libraries have completed their project 'The good life in rural areas - the development of the bookmobile in the new century'?

It is difficult to predict the conditions of the library in the future. The continuing economic crisis to which the USA lead to voluntary increasingly takes over the librarians roles and becomes a threat to the profession. That is the opposite of the development in 1964. It is feared in the USA is that the posts will not be restored after the crisis. Volunteerism principle has both positive and negative sides. Positive in the ownership of the volunteers are in relation to the library, and the collaboration library with locals. The downside is, as mentioned, the threat to stand. How the positive and negative sides can be reconciled, is a problem for the profession in future. This is a task for librarians to fight in cooperation with politicians and local community. The mobile library may be part of the solution?

References

Alsing, L. (2009). Biblioteket bliver bogcafé. I: Jyske Vestkysten - jv.dk. Nyheder Tønder. 11-05- 2009. Tilgængelig [27-12-2010] på: http://www.jv.dk/artikel/661713:Toender--Biblioteket-bliverbogcafe

Blomstrende Landsby. (2011). Blomstrende landsby. Programmet. Blomstrendelandsby.dk. Tilgængelig [21-5-2011] på: http://blomstrendelandsby.dk/programmet/programmet

Brønderslev Nyt. (2011). *Det gode liv støttes i landområderne i Brønderslev Kommune*. Brønderslev Nyt, 27. jan. 2011. Nordjyske Stiftstidende. Tilgængelig [21-5-2011] på: http://broenderslevnyt.dk/foreningsnyhed/Brønderslev-Bibliotek/Det-gode-liv-støttes-ilandområderne-i-Brønderslev-kommune/218/610.aspx

Bune, A. m.fl. (2010). *Den blomstrende landsby: Ressourcer og udfordringer*. Selskabet for Landdistrikts- og Regionalstudier (SeLaRS). Årsrapport 2009. Center for landdistriktsforskning. Syddansk Universitet. Esbjerg.

Juni 2010. Tilgængelig [8-12-2010] på: http://static.sdu.dk/mediafiles//Files/Om_SDU/Institutter/Iful/Udgivelser/CLF3.pdf

Butdisuwan, S. (2000). *Reaching out through a mobile Library*. Paper, IFLA. Tilgængelig [12-6-2011] på: http://archive.ifla.org/IV/ifla66/papers/099-175e.htm

Gatland, J. O. m.fl. (1991). Bokbuss til begjær. Statens Bibliotektilsyn, Oslo.

Grützmeier, L. (b2010). Networking - or not networking. Bibliotekarforbundets hjemmeside,

Perspektiv. Del Din Viden. 21-6-2010. Tilgængelig [4-4-2011] på: http://perspektiv.bf.dk/Del-Din-Viden/Artikler/2010/6/17_132753.aspx

Haagensen, T. (2010). USA: Når frivillige erstatter bibliotekarer. Bibliotekspressen, nr. 16, 2010. side 5. Tilgængelig [31-5-2011] på: http://issuu.com/bibliotekspressen/docs/bpr071010

Hill, J.D. & MacCreaigh, E. (2010). *On the road with outreach: Mobile library services*. ABCCLIO, LLC, Santa Barbara, California.

Jochumsen, H. & Rasmussen, C.H. (2000). Gør biblioteket en forskel? Danmarks Biblioteksforening et. Al. København.

Jochumsen, H. & Hvenegaard Rasmussen, C. (2006). Folkebiblioteket under forandring: Modernitet, felt og diskurs. Danmarks Biblioteksforening og Danmarks Biblioteksskole. København, 2006.

Johansen, P. H. & Eskildsen, K. (2008). 68 landsbyer i yderområder med befolkningstilvækst i perioden 1997 - 2007: En undersøgelse af faktorer, der kan forklare positiv befolkningsudvikling i yderområders landsbyer. August 2008. Institut for Forskning og Udvikling i Landdistrikter, Syddansk Universitet, Esbjerg. Tilgængelig [30-12-2010] på: http://www.blst.dk/NR/rdonlyres/D7A13D03-D8D9-4822-A60EBFDBBE8D6500/67070/68landsbyeriyderomrder.pdf

Lerdsuriyakul, K. (2000). Telling the mobile libraries story: collecting the past to build a future. Paper, IFLA. Tilgængelig [12-6-2011] på: http://archive.ifla.org/IV/ifla66/papers/102-175e.htmn

Putnam, R. D. (2001). Den ensamme bowlaren: Den amerikanska medborgarandans upplösning och förnyelse. SNS Förlag, Stockholm.

Rasmussen, L. (2011). The future library service in the countryside of Denmark - the mobile library? Student thesis / Master thesis, Royal School of Library and Information Science, Aalborg, Denmark, 2011. From [latest located 12-06-2012]: http://pure.iva.dk/en/studentthesis/fremtidens-bibliotheksservice-i-udkantsdanmark--det-mobile-bibliotek(c5aa87d8-5a50-4a21-aae5-3284e5b1a8c1).html

Stringer, Ian (2010). Mobile library guidelines. IFLA Professional Report No. 123. International

Federation og Library Associations and Institutions. The Hague, IFLA headquarters. Tilgængelig [17-3-2011] på: http://www.ifla.org/files/hq/publications/professional-report/123.pdf

Svendsen, G. L. H. (2009). Biblioteksservice i de danske landdistrikter: Erfaringer, modeller og

perspektiver. Syddansk Universitet, Esbjerg. Institut for Forskning og Udvikling i Landdistrikter.

IFUL REPORT 14/2009. Tilgængelig [20-12-2010] på: http://static.sdu.dk/mediafiles//Files/Om_SDU/Institutter/Iful/Udgivelser/IFULReport14Bibl_001.pdf

“Mobilized” Library Services - What Do We Offer? What Do Our Users Want?

Máté Tóth
University of Pécs, Institute of Library Sciences, Hungary. E-mail: toth.mate@feek.pte.hu

Abstract: *The paper is based on a nation-wide survey aimed at exploring the users’ expectations and library plans toward launching mobile-optimized services. Two questionnaires were designed, one for libraries and another for users. A total of 78 institutions and 562 individuals filled in and returned the questionnaire. The sample is big enough to draw up the main tendencies of the development of our users’ expectations.*

The paper focuses on the following research questions:

1. *What kind of mobile devices do our users have (laptops, smartphones, PDAs, tablets, ebook readers, MP4 player etc.)? On which devices do they expect to receive library services? To what kind of devices do libraries plan to provide such services?*
2. *What kind of library services (databases, electronic collections, catalogues, reference desk etc.) and what type of content (books, journals, magazines, music, video etc.) are expected to be available on a mobile optimized format? Which services and what content are mobile compatible now?*
3. *What are the main obstacles of optimizing services to mobile devices?*
4. *What kind of service models can users accept in the field of e-book circulation? What models do libraries intend to set up in the future?*

The results provide a deeper understanding of users’ motivations and preferences concerning the consumption of electronic material. Results also give arguments to launch new service models that help us better exploit the full capacity of the newest technological developments.

Keywords: *Mobile-optimized library services, smartphone, e-book, survey.*

Introduction

The development of library services optimized for mobile devices is an emerging trend. More and more people expect to access catalogues, databases and reference services from smartphones and to download content to their portable devices. The market of electronic content is also growing (and changing with the entering of e-books) therefore developing new service models are necessary. As only small scale developments have emerged it is not belated to explore the users’ expectations and library plans toward such services to be able to effectively exploit the full capacity of technology. The past few years’ research and experimental development projects indicate that there is a growing interest from both libraries and their patrons concerning mobile optimized services (Jensen, 2010; Song & Lee, 2012; Wong, 2012).

The paper reports from a nation-wide survey among users and libraries conducted by the Hungarian Library Institute. Our aim was to explore the present developments in the field of mobilized services in the mirror of users’ needs. We also tried to explore what service models are acceptable for two important roleplayers of the e-book market (libraries and readers). The paper focuses on the research questions listed above in the abstract.

Methods

Two questionnaires were designed. One, in which we inquired about library developments, was spread on professional mailing lists and forums; another, aims at investigating user needs, was spread on library websites, blogs and Facebook pages in early September 2012. We asked libraries to make available the form on their websites and/or on the public terminals in the reading rooms. The libraries could choose the way how to reach their own users. In the case of the other questionnaire dedicated for libraries we asked colleagues to fill that in in accordance with the institution’s plans, strategies and present services. We expected one response per libraries.

The questionnaires were available for 2 weeks. A total of 78 libraries and 562 individuals filled in and returned the questionnaire. The sample is big enough to draw up the main tendencies of the development of our users’ expectations. We can also see how present library services and Hungarian institutions’ plans reflect to these expectations.

Results

The Sample

In our first questions we wanted to explore the demographic variables of our sample. As the questionnaire was appeared on interfaces designed for library patrons, it is not surprising that most of our respondents (94%) are registered users. The rate of women is higher (64%) than male among them. All age categories are represented: 24% are children (under 18); 48% young (19-35); 24% middle aged (36-60) and just 5% are above 60 years. The average age is 29 years. The respondents' educational background reflects the age categories. 43% has tertiary; 30% secondary level education; and the remaining 27% below that. The respondents' 44% are living in villages. It is caused by the fact that the most enthusiastic libraries made available our online questionnaire on their village branches' computers as well, where people were very happy to be able to express their opinion. This is the reason why village citizens became also overrepresented in the sample. The heavy internet users are over-represented in the sample in compare with the Hungarian average. 80% use internet daily, 12% several times per week. Most of them (64%) stated that they were not reading electronic books. We can't be sure if they are aware of what e-book means.

Regarding the responding libraries we expected one answer per institution. The public libraries supplied the biggest part of the answers (38%), but representatives of school (29%), academic (18%), special (8%) and other types (7%) of libraries are also filled in and returned the questionnaire. Small, medium-sized and big libraries also filled it in. The numbers of registered users per institution are below 500 people in case of 28 libraries (36%), between 500 and 5000 in 48%, and more than 5000 in 16% of the responding institutions. It means that the answers together represent a relatively wide scale of the Hungarian library sector from the smallest to the biggest organizations.

User Expectations vs. Library Services on Mobile Devices

The diagram below shows what portable devices our respondents have, and which they are planning to procure in the near future.

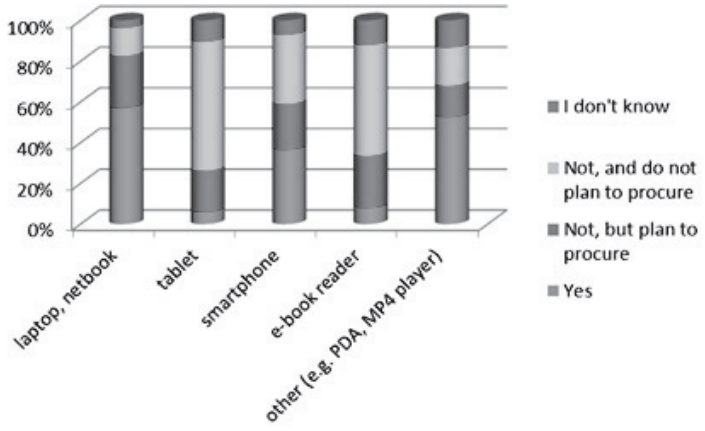

Figure 1. Portable devices

Among portable mobile devices laptops and smartphones are the most popular, while tablets and e-book readers are the least. Although most respondents don't hold and even don't want to procure any device dedicated to e-books, they are open to exploit the possibilities of these types of services. 63% answered yes to the question if they would lend e-books (Certainly in case of the device is lent together with the content.).

The other side shows that libraries can't satisfy users' needs now. Though 81% collect electronic documents, just 23% collect e-books, and just 4% offer e-book lending in their service portfolio. The view becomes more optimistic if we see that 50 (65%) of the responding libraries are planning to launch e-book lending services, and a huge number (30) is thinking of lending the e-book reader device also together with the content. It seems that libraries have recognized current trends, but the circumstances don't allow them to satisfy that. It is true in case of the websites' mobile optimized formats as well.

Mobile-Optimized Content

More and more library users want to reach content on their smartphones. Optimizing content to mobile devices make browsing more convenient and user friendly. 61 out of the 77 responding libraries have an own website, 14 (18%) optimized its content to smartphones, and 31 (40%) plan to do so. Mainly the smallest ones (school libraries, small special collections) reported not having webpage, or that it isn't mobile-compatible. We also asked which parts of the website are available in this format. The results are shown below.

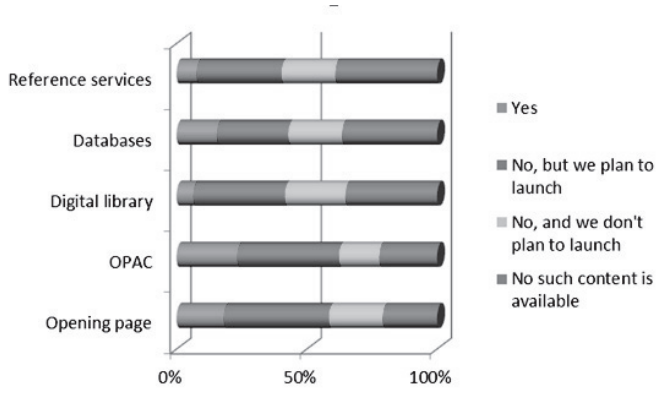

Figure 2. Mobile-optimized content

The users - also those, who don't own smartphones - are very keen on using library-related content on their devices. We asked what kind of services they would use if those would be available. We asked them to evaluate possibilities on a 1 to 4 scale, where 1 means "It is sure, that I wouldn't use it", and 4 "Surely I would use". The highest rankings were given to OPAC (2.6), library databases (2.6) and opening page (2.5) while digital library's electronic documents got the lowest (2.2). It seems that in this case libraries development plans reflect user expectations. Practical data on the websites' opening pages (contact data, opening hours) and short pieces of information in the OPAC are the content that people most expect from libraries. Maybe the smartphones' small screens and the lower level of readability caused that the users and librarians don't think of offering longer texts, digital library content in mobile-optimized format.

The Main Obstacles of Launching "Mobilized" Services

In this section we focus on the main obstacles of creating "mobilized" web services and why not offering e-book lending possibility. First we asked them about mobile-optimized web content. We offered different options that they had to evaluate on a 1 to 5 scale, where 1 meant "Not so significant", and 5 "Very significant".

The main obstacles of launching e-book lending services are shown on the diagram below.

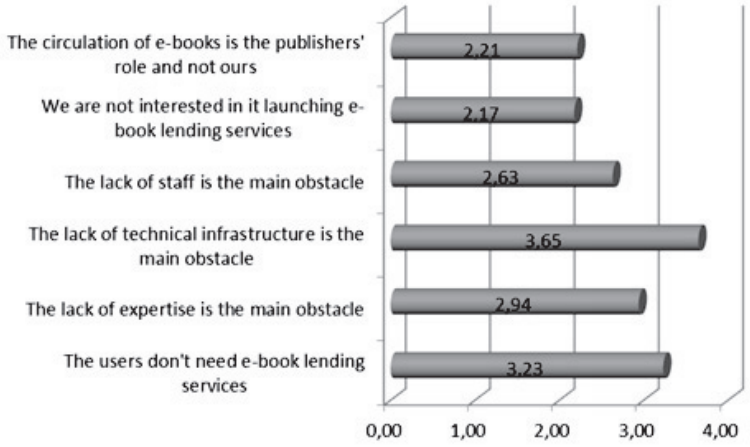

Figure 3. E-book lending services

These factors mirror much more the librarians' feelings and emotions toward obstacles than the real problems. After the not satisfying technical infrastructure they feel that the second most important reason for not offering these services is the lacking interest of users. It is surprising, because the responding users expressed an intensive interest toward mobilized services in general and e-books in particular.

Service Models

We also asked both users and librarians what kind of service models could be accepted for them. The users don't mind what kind of organization (publisher or library) makes the content available. It became clear that they prefer solutions in which they can keep the content and which are free of charge. These two can hardly work together as copyright holders insist on getting money for their works.

For librarians we sketched up six possible models and they had to select the ones which are close to their ideas and expectations. These solutions are derived from current ideas emerged in forums where representatives of publishers and libraries tried to agree on a models that is profitable for both sides.

The possible models are the following:

- Libraries lend e-books procured from publishers free of charge for a certain period just like in the case of paper books. At the end of the lending period content disappear from the users' devices. Publishers make profit from the items sold to libraries.
- Libraries license e-books for a certain period from publishers, and they can lend them free of charge within this period. In this case lending means that users get online access to content but they can't download it to their own mobile devices. Publishers can make profit from the license fees.
- Libraries license e-books for a certain period from publishers, and they can lend them free of charge within this period. In this case lending means that users get online access to content but they can't download it to their own mobile devices. If the user wants to keep content - or download it for a mobile device - he or she can buy it from the publisher.
- The libraries don't license or buy e-books just give information about them. If somebody wants library leads the user to the publishers' site. The library gets commission after the sold items.
- The library collects and provides information about the published e-books, but doesn't buy, license and provide them.
- The library subscribes to a collection of e-books at a service provider which manages the negotiations with publishers, license agreements and terms of use.

Libraries could select multiple models. The following diagram shows the results of the selections.

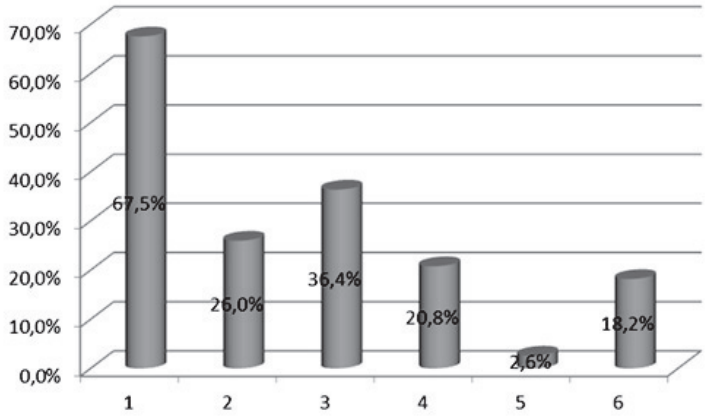

Figure 4. Multiple model selection

All respondents can imagine a model which is similar to paper book lending services. In Hungary publishers expressed that they don't trust in DRM solutions therefore they won't hear of this model. Providing online access to a licensed content seems also very popular possibility among librarians. Just 18% can imagine the No. 6 solution that is ubiquitous in the US libraries (ALA, 2012). There is no doubt that librarians want to deal with e-books, only 2 respondent is able to imagine a possible future in which librarians don't serve their users with e-book content and selected No. 5 answer. Librarians think that e-books are also part of the universe of published knowledge therefore it is our profession's duty to provide people with them.

Discussion and Conclusion

Results show that though most libraries have not already offered mobile compatible library websites, OPACs, reference services and databases, they plan to launch them in the near future. Most users own a smartphone and a laptop, and have a strong need to receive library services to these devices. They prefer consuming content on these small screens consists of small pieces of information (OPAC, database content) to whole electronic libraries with longer texts.

Though e-book reader penetration in Hungary is still relatively low and most libraries are still not ready to launch services for those having these devices, users are keen to use such tools by borrowing both content and e-book readers. The results also show that people prefer content one may keep forever to borrowable material that can only be used for a limited period. Libraries are planning to launch e-book lending services but they still recognize certain obstacles that don't allow them for step forward in this field. Libraries feel that e-books are parts of the universe of published knowledge therefore its provision is the duty of our profession.

The results provide a deeper understanding of users' motivations and preferences concerning the consumption of electronic material. Results also give arguments to launch new service models that help us better exploit the full capacity of the newest technological developments.

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References

ALA. (2012). *American libraries, digital supplement, Summer 2012*. American Library Association.

Jensen, R. B. (2010). Optimizing library content for mobile phones. *Library Hi Tech News, 27(2)*, 6-9.

Song, Y. & Lee, J. (2012). Mobile device ownership among international business students: A road to the ubiquitous library. *Reference Services Review, 40*(4), 574-588.

Wong, S.H.R. (2012). Which platform do our users prefer: Website or mobile app?. *Reference Services Review, 40(1)*, 103-115.

Using QR Codes in the Hungarian Libraries

Ramóna Kovács
University of Pécs, Hungary. E-mail: ramciboci@gmail.com

Abstarct: *The field of mobile digital technology advances very quickly. With the spread of the mobile internet access and the proliferation of smart phones there has been an increasing need to get access to more and more relevant information. With the rapid introduction of new information technologies and changing user needs and expectations, the libraries should increase the possibilities of interaction. The libraries will lose their importance more if they don't respond to these changes. There are a lot of opportunities to find new ways in this area. It is good that our mobile phone is a smart phone, but do we use it wisely? What should we do if we want to see meaningful content on the smart phone? Using QR code in the library will be a good first step to explore to connect to the network to the physical world. QR (Quick Response) codes are matrix codes, like two dimensional bar codes, that are easily readable by the majority of camera phones using a freely downloadable or occasionally pre-installed application.*

In my paper I would like to present how QR code applications are used in Hungarian libraries and I would like to introduce a new, previously unknown publication type to Hungary, a 'smartbook'.

The paper focuses on the following questions:

- *How many libraries are using QR codes in Hungary?*
- *Do libraries have the needed technical requirements?*
- *What are we using QR codes for?*
- *Why do we need the 'smartbook'?*

Keywords: *Quick response code, smartphone, smartbook, online services.*

Introduction

Modern technologies are being rapidly developed. Over the last few years, small and smart has become the central idea of new inventions. Cell phones are gaining an important role in our lives. With better functionalities, they make people's life more efficient and convenient. The comfort they provide certainly made our lives much easier than ever before. Two brilliant features can be found in modern cell phones: the integration of digital camera and the ability to access the Internet anytime and anywhere. By spreading of mobile internet facilities and the proliferation of smart phones there has been an increasing need to get access to more and more relevant information, and not only by using a personal computer. The libraries will lose their importance more if they do not respond these changes. If the libraries want to be open to these changes, they should increase the possibilities of interaction. Ashford (2010) said that "QR codes are a convenient way to add the virtual to the physical - to provide useful content, often at the time of need. QR codes are also gaining traction in much of Europe, where many cities, academic libraries, and campuses have been exploring their potential." There are a lot of opportunities to find new ways in this area, for example using mobile barcodes. Applications of 2D barcodes technology have recently found a great grow with the spread of camera phones. QR Code is a mobile phone readable barcode that contains information in both the vertical and horizontal directions, whereas a bar code contains data in one direction only. QR codes (quick response codes) work just like barcodes but contain more information. With an app, any smart phone can detect and read them. QR codes usually contain a website URL, email address, or phone number. The small square graphics made of black and white pixels are popping up everywhere - corporates and individuals are using them to connect offline advertisements with online content. As Lisa Carlucci Thomas said that the libraries "developed custom mobile websites and applications, augmented reality tours and place-based collections, point-of-need information and self-service features via QR codes, ebooks and device circulation, and an expanded social media presence. They've also increased interactivity through Facebook, Twitter, YouTube, Foursquare, Tumblr, and other mobile-ready social platforms."

Considering the widespread circulation of mobile devices (such as smartphones) among users, many libraries are experimenting with the usage of the QR to deliver library services in a user-friendly and quick way. In the U.S., England and Australia libraries have been using this technique such as linking videos, online book trailers, Web sites, surveys, contests and links to full text of print journals for many various purposes. Before my research I considered that in Hungary QR codes get attention only in advertising, not in libraries. What could be the reasons of this fact? Because of these reasons I started to do research on QR code usage in Hungarian libraries.

Methods

My research is based on a questionnaire survey, which was conducted online via social networks. I asked 130 librarians. Most of them (71%) were women and they worked in academic and city libraries. This disquisition is not representative research, only a snapshot of librarians' personal attitudes. I asked them for examples if they are familiar with QR codes and what is their motivation when they are scanning them. The questionnaire contained 17 questions which consisted four open-ended and 13 closed-ended ordinal-polytomous questions. The first four questions focused on personal data and the other questions were related to the QR code.

Results

First I asked our respondents if they are familiar with QR codes. The majority of librarians stated to be (80%) familiar with this technology. In my opinion this is a very high rate, despite of the fact that 18% of them didn't have smartphone. (See: Figure 1) The sample is not representative, and anybody could decide not to fill in the questionnaire. It is possible that those decided to fill it who are owning smartphones. Tóth (2013) measured a significantly lower rate of smartphone penetration among librarians.

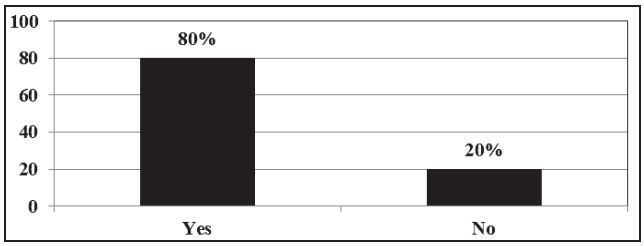

Figure 1. Are you familiar with QR codes?

Of those who answered yes 67% have seen QR codes in retail stores, 65% in magazines and 60% on posters. Only 25% of people have seen them in libraries. It seems that this technique is only familiar from the commercials and business sphere. (See: Figure 2)

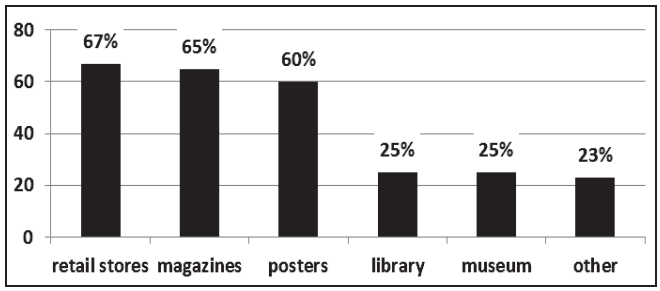

Figure 2. Where have you seen QR codes?

My next question was what their motivation for scanning these codes was. Despite of that librarians are familiar with QR codes 73% of them haven't scanned them. Only 9% scan because of curiosity and 8% to get information on product or service. Only 1% of librarians used it to contact someone. (See: Figure 3)

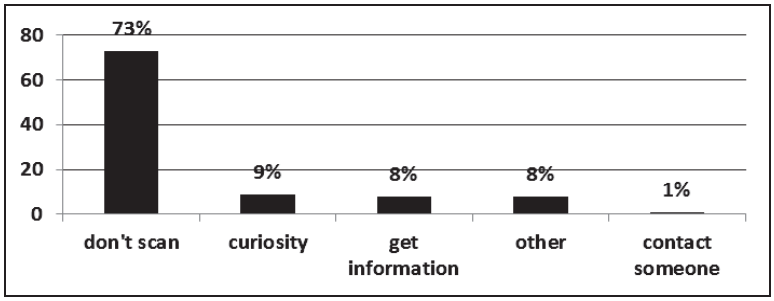

Figure 3. Why have you scanned?

I also asked if their institutions use these virtual codes. Most libraries don't use QR codes because there are no human and material resources, and it's difficult to be integrated into the library type. They will be applied if the publishers using them. (See: Figure 4) 23% of QR codes appliers in the libraries use following methods: they make brochures which advertised various services, they print QR codes in the book, they incorporate online catalog, they are using an interactive map and they stuck into to bookshelf. Little libraries think that they wouldn't be able to introduce this service because of the financial reasons. I just want to emphasize that smaller libraries with tight budgets can still create engaging activities like this by making use of free online tools, encouraging play and making the most of existing staff knowledge and enthusiasm for building fun learning activities.

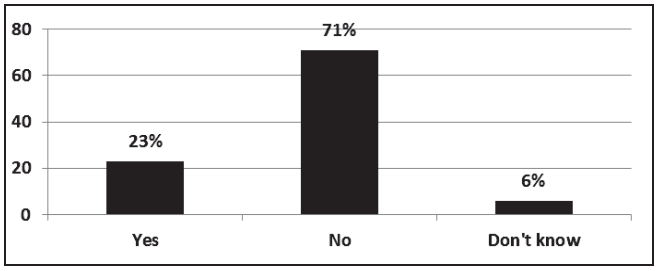

Figure 4. Is your library using QR codes?

In addition 54% of the respondents don't know they can create QR codes free at an online platform and most of them don't create codes.

The 'Smartbook'

QR Codes may appear in magazines, business cards, and any other object users may need further information about. Being an effective way to connect the virtual world with the real one, QR technology can be useful to promote cultural heritage too (e.g. museums, exhibitions, monuments etc.). When you read a book you wish you could actually see and hear when the author writes about? QR codes are being introduced by the book publishing industry to offer the reader a richer and more interactive experience. As the research shows in Hungary only a few libraries are using QR codes, but this modern technique has apparently entered in the world of books. The Kossuth Publishing and the European Communication Agency introduced a new, previously unknown publication type to Hungary, a 'smartbook'. The idea is a national development. The smartbook connects printed media - the book - with online content through the use of QR codes, and is available on the most widespread mobile device: on the smartphone. The publication contains illustrations and short descriptions embed with QR codes. The publisher has issued three books: two travel guide books and a story book in this new innovative format. The Budapest smartbook contains touristic information for tourists to explore Budapest. These smartbooks don't have antecedent of the book market. In the publication we can found the city map where numbers indicate the sights and QR codes are belonging to these numbers. Using this book we need mobile internet or WiFi connection. The narrator of the story describes about the surrounding sights in 5-15 minutes. You can listen to your guide commentate about the attractions (Royal Palace, Fishermen's Bastion, National Museum of Hungary, Heros' square, Houses of Parliament) and their environment, and view the color photos.

The story smartbook was written expressly in this format, it's a real 21st Century tale. A question may emerge: Why do we need the smartbook? The kids operate well these mobile phones but valuable content can't be found on these devices only games. The story smartbook - written for children - is intended to give solution to this. This is an interactive story which contains six chapters that longs for two hours. After a chapter we can decide in which direction the story should continue. QR codes notation the available possibilities. The storyteller tells the story while we can see watercolor illustrations.

Conclusion

As the results show in Hungary only a few libraries are using QR codes. What could be the reasons of this fact? The main problem is that libraries don't have material resources to introduce this new service. The libraries don't have the necessary technical requirements and they don't have web 2.0 applications. Another problem is that librarians' attitudes don't change. They think these codes difficult to read, as it depends on the lightning conditions. They suppose IT security problems because the hackers can steal the users' data. The solutions will be the existence of a high level of expertise and it is important to constantly update their skills.

Despite of these things we shouldn't forget Rapps's advice: "only use them where they have the added value of simplifying complex tasks, "not because they are 'cool' or 'trendy." A great QR code adds some sort of valuable virtual experience that the user cannot get when they are standing in front of the code itself.

This improvement can appear in a way which people can download from the internet. Uploading QR codes on the internet may be a problem but we can't avoid that these development is placed on the internet. But maybe there is a hope in the smartbook itself, whose form not only splendid and elegant, but also holds the traditional values of the books that can meet the opportunities of the virtual world. In addition I think QR codes will be an easy way to help publishers step into the digital ages. QR codes serve a purpose, but only if we are asking ourselves the right questions. And that question has nothing to do with QR codes, but a sound digital marketing strategy.

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References

Asford, R. (2010). QR codes and academic libraries. Reaching mobile users*, College & Research Library News, 71*(10), 526-530.

David, R. (2011). Lj virtual tech summit explores how libraries use tech to connect with patrons. *The Digital Shift, Dec 12, 2011.*

Thomas, L. C. (2012). The state of mobile in libraries 2012. *The Digital Shift, 137*(2), 26-28.

Tóth, M. (2013). "Mobilized" library services - What do we offer? What do our users want?. In *Proceedings of the XXI. International BOBCATSSS Symposium.* Amsterdam: Hogeschool van Amsterdam.

Promoting Change in Business Information Management: Connecting Staff and Stakeholders through Enterprise Social Networks as a Factor of Success

Friedemann Sieber
Stuttgart Media University, Stuttgart, Germany. Email: fs063@HdM-Stuttgart.de

Wolf-Fritz Riekert
Stuttgart Media University, Stuttgart, Germany. Email: riekert@HdM-Stuttgart.de

Abstract: *The role of an information professional as change agent in the development of business information systems is being explained. This paper describes the abilities of change agents and shows the benefits of their commitment. Further, it is shown how they involve the employees in the change process to teach them that change will make things better for them and how they run the change.*

The change illustrated is the implementation of an Enterprise Social Network to foster business information flow, communication and collaboration. The goal is to improve connection of both staff and stakeholders.

Keywords: *Business information management, collaboration, change agent, enterprise social network, information systems.*

Change Agents

Change is the only constant in business nowadays. Because everything else is changing constantly, change is the stable factor. It is needed to understand and accept that most other factors that are perceived as firm are only conditions.

The increasing speed of changes in business information management leads to a raising need of specialists, who are well informed about technology trends and business activities. These specialists have to be able to diagnose and solve problems and to be aware of the situation of change as the normal state. Necessary changes happen in any case, they can neither be prevented nor forced, so the specialists needed have to recognize change in an early state and accomplish it, they have to be able to turn strategy into reality - to sum it up, they have to be visionary. The response to this necessity are Change Agents: skilled managers who can figure out which changes are required and able to communicate the advantages in changing existing systems to the employees, "the goal of a change agent is obviously to make changes that stick. The result of change agent activity is to enable people to do more [...]." (Stevenson, 2008)

Change agents can be seen as a type of consultant who has a very close relationship to the employees by analyzing their work and needs and showing them ways to improve their workforce. "IT pros today need a new level of people skills as they work to guide and support the business in its use of social and other technology whose use is often driven first by the users themselves and changes far more quickly than in the past." (Donston-Miller, 2012) So the job of a change agent is not about resistance-breaking but about generating acceptance. It can be said that change agents do not only have to be excellent entrepreneurs and IT professionals, but also need good communication, psychological and empathy skills. They have to understand the employees. Hence, the most important thing for a change agent is gathering frequent feedback both from co-workers and stakeholders so they can react to others' concerns to improve the process of change. "The more sources that are used for feedback, the more accurate it is likely to be." (Gilley, 2001, p. 33)

Performing change means keeping business running and if it is done by involving employees and stakeholders, the function of a change agent is also a very social one. However, it is to be noted that conventional aspects of leadership like strong visions and personal engagement are still very important. Especially persuasiveness is still an essential ability in a leading position, with raising importance in big companies that tend to anonymous labor relations.

Need for Effective Communication

Internal enterprise communication is very limited, it mainly happens in mail and phone correspondence and meetings. One disadvantage of these communication methods is that only persons addressed by the starter of the conversation are involved in the correspondence and a lot of employees for whom this information could be very important aren't even aware of the existence of this conversation. Another big limitation of common business communication is that answering a message is only possible with the options given by the media used.

This lack of effective ways to perform business communication without borders leads to employees not having relevant data and information and not knowing all the processes they belong. This isolation of the individuals lowers productivity! By implementing an Enterprise Social Network (ESN), employees will be able to communicate together no matter what department or process they belong to and they will be able to contact colleagues at different levels of the company hierarchy. According to McKinsey Global Institute (2012, p.120), the increase in efficiency and effectiveness of interaction work raises productivity by 20 to 25 percent.

An ESN supports communication that goes beyond the exchange of factual information along the process workflow, e.g. meta-communication about the existing structures or discussions about corporate culture in the company. So the ESN also contributes to the confidence of the employees in the structures and culture in the company.

Even though social networks are a big part of today's civilization and very common and widely accepted in the private life of most people with Facebook just hitting 1 billion registered users, companies only begin to realize the value of their adaption for enterprise. The implementation of an ESN is often understood as a technical change and not as a change of social interaction and relationship of the staff. Excluding the social factor during the process of implementation is against the basic idea of social networking. Not only serving the platform but also stimulating vivid communication and networking among the employees is the key to the successful implementation of an ESN.

In addition, the feature of collaborative working is one of the main advantages of ESNs, employees can work simultaneous on a task. This delivers new dimensions and effectiveness to working groups. (cf. Solis, 2012) Collaboration is not limited to only working with colleagues within the company; it is even possible across companies. A big advantage of ESNs is their potential to integrate stakeholders into communication streams. They give the possibility to keep stakeholders informed about processes and thereby to increase acceptance of changes and new developments amongst them. It must be pointed out that “a culture of sharing ideas within the workgroup and also accepting ideas from outside the group is necessary for successful collaboration in a highly networked enterprise.” (McKinsey Global Institute, 2012, p. 123)

There are a lot of ESNs available on the market, very popular are Yammer, Jive and Chatter. (cf. McKinsey Global Institute, 2012, p. 160) Despite their complexity, they are very user friendly and since many of the employees are already familiar with social networks because of using them in their private life, the expenses for training the staff may be kept low.

Implementation of an Enterprise Social Network

One of the most important trends in business communication is to get rid of the divisional, vertical organization structure where every department works on their own projects and to add a horizontal information flow to get an organizational matrix. The best way to let information flow beyond its traditional limits is to exchange information over an ESN. As a consequence, this leads to the implementation of an ESN to improve the connection of people over organizational boundaries.

The change agent includes the employees and stakeholder’s right from the start into this process, gaining trust from them is a very important task for a change agent. Without backing from the staff it is not possible to launch new business information management systems because the employees will refuse using them. This is done by letting staff set up user profiles already in the process of implementation and give the possibility to interact together and get to know the ESN in a hands-on way. Employees will soon be accustomed to their new style of communication and begin to appreciate the comfort of being able to see the user profiles of the people they interact with.

The training of new forms of communication through an ESN is getting easier if the employees have already been using the network during the process of its implementation. For the change agent, the biggest advantage of this early use is to get feedback on the ESN. With the staff communicating and collaborating over it in their daily working environment, the change agent is able to receive a lot of reactions on the ESN’s implementation. The

key to a successful implementation is to listen to the feedback given and carefully evaluate the issues reported. It is the change agent's task to make the change a positive experience for everyone.

With the backing and thereby the acceptance of the staff, chances are very high that change succeeds.

Benefits for the Enterprise

In this case, the change agent had the task to enhance business information flow and communication and to enable improved collaboration based on a change of information systems. This has been realized by the implementation of an ESN, so the change agent connects employees not only to one another but to stakeholders as well.

Improvements in communication, collaboration and information flow pay off. Results are trust amongst stakeholders and effectiveness in working.

As has been shown, the employment of a change agent has a lot of benefits. There are very good prospects to achieve change successful because of the wide acceptance of the change amongst staff. A good change agent arouses the confidence of the employees and reciprocates their trust by running change in a way they support.

References

Donston-Miller, D. (2012). *5 Social skills IT pros must have*. Retrieved from November 20, 2012 from http://www.informationweek.com/thebrainyard/news/social_networking_consumer/240005092/5-social-skills-it-pros-must-have.

Gilley, J. W. (2001). *The manager as change agent: A practical guide to developing high performance people and organizations*. New York City: Perseus Books Group.

McKinsey Global Institute. (2012). The social economy: *Unlocking value and productivity through social technologies*. New York City: McKinsey & Company.

Solis, B. (2012). *Enterprise social networking is more than Facebook behind a firewall*. Retrieved November 20, 2012 from http://www.briansolis.com/2012/03/enterprise-social-networking.

Stevenson, D. (2008). *What is a "Change Agent?"*. Retrieved November 16, 2012 from http://it.toolbox.com/blogs/original-thinking/what-is-a-change-agent-23764.

The Changing Role of the Manager in the Digital Era: Findings from Erasmus IP LibCMASS 2012 Project

Tania Todorova
State University of Library Studies and Information Technologies, Sofia, Bulgaria. Email: t.todorova@unibit.bg

Denitsa Dimitrova
State University of Library Studies and Information Technologies, Sofia, Bulgaria. Email: nakakrumova@abv.bg

Kristina Videković
University of Zagreb, Faculty of Humanities and Social Sciences, Department of Information and Communication Sciences, Croatia. Email: kristina_videkovic@yahoo.com

İpek Şencan
Hacettepe University, Department of Information Management, Ankara, Turkey. Email: ipeksencan@hacettepe.edu.tr

Pascaline Milliat
Paris Descartes University, Paris, Institute of Technology, Paris, France. Email: pascaline.milliat@laposte.net

Abstract: *Information sciences are an ever growing field which requires immense knowledge from its professionals. Students that are just beginning to enter this world sometimes lack practical experience or some theoretical knowledge which would prove useful in their future careers. Programs such as ERASMUS IP LibCMASS (2012-ERA-IP-11), which started in 2011, offer both of these in a stimulating international environment. The IP School include four main subjects - Library, Information and Cultural Management and Information Literacy; Intellectual Property and Information Brokering; Information Technologies in Libraries, Archives and Cultural Institutions; Preservation and Access to Cultural Heritage and Digital Libraries and brought together students and lecturers from Bulgaria, Croatia, France and Turkey. The aim of this paper is to present the inner workings of the second year of the IP LibCMASS project held in University of Zagreb and to highlight the novelties that appeared in regards to its first year. Moreover, it also aims to convey students' conclusions about the role of the manager of cultural institutions in modern society.*

Keywords: *Information science, IP LibCMASS, manager of cultural institutions, future information professionals.*

Introduction

Information science has recently become extremely important and widespread. Technology, communication, education and so on serve to develop critical analysis of information and show its significance. When thinking on the critical importance of information, information professionals' qualifications become more debatable in recent years. Evermore businesses and institutions are looking for information professionals who can offer them unique services and who possess knowledge of their field as well as of other adjoining fields. Future information professionals will be required to know even more. They will be supposed to have the competencies in many aspects. However, universities find it difficult to offer comprehensive programs of information science because of lack of money or professors. Most often they focus on several fields within information science, e.g. library science, archival science, cultural heritage management. For this reason the ERASMUS IP 'Library, Information and Cultural Management - Academic Summer School' (LibCMASS, 2012) is very much needed to offer students of information science a broader scope of topics and issues that are relevant in today's information society. Furthermore, some universities due to internal or external difficulties cannot offer a curriculum which combines theoretical knowledge and practical aspects so an interdisciplinary program bridging the gap between these two aspects has proven to be very useful to both students and professors (Todorova, Raykova, Çakmak, & Miočić, 2012). Through ERASMUS IP 'Library,

Information and Cultural Management - Academic Summer School' students, future information professionals, have a chance to meet and recognize the various applications in different countries and also to compare national and foreign best practices.

About the Project

From 2nd to 14th September 2012 at the Faculty of Humanities and Social Sciences, University of Zagreb, the IP LibCMASS project brought together 25 students and 19 teachers from Bulgaria, Croatia, France and Turkey (http://libcmass.unibit.bg/). Such an international environment representing four countries with a lot of similarities and differences proved to be an amazing opportunity for creating new relations.

The Intensive Program in Zagreb centered around four main subjects: Library, Information and Cultural Management. Information literacy; Preservation and access to cultural heritage. Digital libraries; Intellectual Property. Information brokerage; and Information technologies in libraries, archives, museums and other cultural institutions. For each topic, there were several lectures presented by professors from the four universities. These lectures brought a rich knowledge to apprehend the profession of librarian and its changes in a world more and more computerized. Students studied different methods, theories and approaches to manage libraries and organize knowledge: they had lectures about information architecture and outsourcing, for example. They also studied about the impact of new technologies and the Internet on libraries, with lectures about social networks and Internet services as a support to library services. They studied how to make available the digitized information with lectures about folksonomy, digital libraries and the ways to serve the users of cultural institutions in the digital area. Finally they compared libraries in a European dimension, with the digital library Europeana and the study of the European Union Cultural Policies and Strategies. All these topics and issues are essential for preparing students for their future careers in librarianship and for developing their ability to adjust to the changes in their profession.

During the Intensive Program, oral participation was required from students with several tasks and oral presentations. Firstly with workshops which complete lectures, and secondly, with reports made by teams, during free time. Most of the workshops were based on collaboration in international teams giving the students a chance to learn about other countries, different specialties, universities, libraries, archives, programs etc. Moreover, national teams contributed to lectures by presenting the situation in their own country, like the differences between their university programs. This oral requirement had a very good impact because it obliged the students to communicate despite the language barrier. Consequently, they made a real cultural exchange while improving their English.

Several study trips enriched these two weeks of work and created a link between courses and real practice. Students visited The National Library of Zagreb, the Croatian State Archives and the Zagreb City Libraries. Reports have been done in international teams about these visits and we can find them on the platform called "Intercultural exchange around the profession of librarian" (http://www.docinfos.fr/culturex/).

Findings

A thorough and all-inclusive structure of the IP School presented students with a chance to think critically about many issues within the information society, form their own opinion and have that opinion challenged by opinions and experiences from other countries.

The most widely discussed topics were digitization and Internet services and issues relating to them. Students learned that a whole variety of issues had to be kept in minds of young information science professional. Not only did they come to realize that legal issues such as copyright, intellectual property and information assurance need to be dealt with, they also realized that information institutions no longer provide just face-to-face services. They provide user-friendly services most often in the form of digital libraries and its social networks (Facebook, Twitter, and YouTube etc.), digitized cultural heritage, Ask-the-Librarian services and others. Moreover, it is not enough just to provide the public with as much information as possible. Information science professionals need to also organize that information, e.g. through folksonomies. All of these topics do present the future of information services in all kinds of institutions; however, by the last day of the school many students concluded that by putting so much emphasis on these two aspects we tend to ignore the traditional roles of cultural institutions as well as their traditional tangible materials. Questions that appeared on everyone's mind were questions that have been asked by the information science community for a while: Will there be a need for physical information institutions in the future? Will digitization alienate the user from information institutions and all the services that they offer? Can we as future professional and managers of cultural institutions do anything to stop such trends?

Another issue that was raised in students' discussion was the question of university programs which tend to favor library science and information technologies as the most common representatives of information science thus neglecting other aspects such as publishing and cultural heritage management. Such blatant disregard of different aspects of information science can have a negative effect on students in the future since they will not be introduced to issues, topics, terms and practices which they may encounter in their future careers as information professionals and some as managers of cultural and information institutions. Globalization, computerization and the Internet have made it impossible for future managers to focus on solely one thing. Therefore, a versatile education is crucial in producing quality information professionals.

Even without hearing about certain topics the students concluded that today's and future managers of cultural institutions, who have to supervise all of this flow of information, creation of services and projects and make sure that the institution abides the law, obviously have to be more than just professional in their specific field, be it library science, information brokering, printed communications, information management, cultural heritage management, etc. They have to possess knowledge going beyond their specialty, pay attention to both digital and non-digital materials and issues relating to them, are well versed in social networks and Internet services and offer a stimulating physical environment for their users. Therefore, we can conclude that managers are no longer responsible just for the well-being of the materials in their cultural institution but also for the well-being and growing interest of users and the community. As we saw with practices for stimulation of reading, the information and cultural institutions do not just provide a service to the community; they educate, form and care for the community. Managers' responsibilities increase each day and without the help and support of their colleagues, both national and international; they would not be able to fulfill the role and mission of their institution.

Conclusion

Nowadays educational programs like IP-LibCMASS are a very important part of student's future development. This intensive program which we have the opportunity to join gives students a chance to learn a lot of new things and to confirm their old knowledge. The students also have the possibility to meet many new people with which to share ideas and experiences and to keep in touch in the future. Moreover, students get a glimpse into the responsibilities of managers in the digital era which shows them that managing an elaborate machine that is a library or any other information institution requires patience, organization and most of all collaboration. This IP program is a very good example of collaboration and communication between students from different educational and cultural backgrounds. This kind of program encourages the future personal and professional collaboration. In the 21st century, almost everything can be done thanks to the advanced technology. In the digital era everyone should be able to use a computer, the Internet and some of the social networks. However, we shouldn't forget that the majority of the content on the web is intellectual property. These issues were among the main topics discussed during the lectures in the University of Zagreb. Students participating in the Intensive program tested their English skills in a variety of workshops in international or national teams. Students were faced with problems and situations that can happen to them in their future development and they had to provide solutions. These kinds of practices help participants understand simultaneously the similarities and the difference of institutions in their countries. "United in diversity" is not just the motto of the European Unity. This is the most precise description of IP LibCMASS and other similar programs because they unite people from different countries and connect them through their common interests. For example, this year's participants were students from Sofia, Zagreb, Ankara and Paris. Proof of the benefits of these programs is the number of people wishing to participate and the number of implemented programs. On 30 November 2012 IP LibCMASS project was awarded with the Certificate of Quality by Human Resource Development Center in Sofia, responsible for Lifelong Learning Program in Bulgaria.

References

Intercultural Exchange around the Profession of the Librarian. Retrieved October 27, 2012 from http://www.docinfos.fr/culturex/

LibCMASS: IP Library, Information and Cultural Management - Academic Summer School. Retrieved October 27, 2012 from http://libcmass.unibit.bg/.

Todorova, T., Raykova, A., Çakmak, T., & Miočić, P. (2012). E-Motion of the manager of cultural Institutions: Experiences within ERASMUS IP LibCMASS at State University of Library Studies and Information Technologies in Sofia. *Information in e-Motion: Proceedings of BOBCATSSS 2012, 20th International Conference on Information Science* (pp. 324-327). Amsterdam: BOCK + HERCHEN.

Use of Departmental Seminar Libraries as Institutional Repositories: A Survey on Selected Public Universities in Bangladesh

Kazi Mostak Gausul Hoq
Dept. of Information Science & Library Management, University of Dhaka. Email: kmghoq@yahoo.com

Nazmul Hasan
Dept. of Information Science & Library Management, University of Rajshahi. Email: nhasan177@gmail.com

Eamin Ali Akanda
Dept. of Information Science & Library Management, University of Rajshahi. Email: akanda.eamin.76@gmail.com

Dilara Begum
East West University. Email:dilara.lab@gmail.com

Abstract: *Institutions, especially research and academic institutions, are generating new ideas, information and knowledge at a great speed and Institutional Repositories (IRs) are providing a way to share, promote and proliferate these intellectual outputs for the benefit of not only the academia and scholarly communities, but also the humankind in general. The present paper explores the possibilities of transforming the Departmental Seminar Libraries (DSLs) of higher academic institutions into IRs, thus extending the role of the DSLs beyond mere storehouse of books and other information materials. It also explores the potential of these IRs as the 'hub' of wide-ranging research, knowledge promotion and knowledge sharing intervention, with practical implications in the fields of education, research, information management and so forth. Against the backdrop of multifarious knowledge and technology-driven initiatives in Bangladesh, the paper investigates the possibility of establishing a network of IRs in the country and beyond, thus complementing the ongoing governmental initiatives to turn the country into 'Digital Bangladesh' by the year 2021.*

Keywords: *Seminar libraries, Bangladesh, institutional repositories.*

Introduction

Institutions, especially research and academic institutions, are generating new ideas, information and knowledge at a great speed and Institutional Repositories (IRs) are providing a way to share, promote and proliferate these intellectual outputs for the benefit of not only the academia and scholarly communities, but also the humankind in general. The present paper explores the possibilities of transforming the Departmental Seminar Libraries (DSLs) of higher academic institutions into IRs, thus extending the role of the DSLs beyond mere storehouse of books and other information materials. It also explores the potential of these IRs as the 'hub' of wide-ranging research, knowledge promotion and knowledge sharing intervention, with practical implications in the fields of education, research, information management and so forth. Against the backdrop of multifarious knowledge and technology-driven initiatives in Bangladesh, the paper investigates the possibility of establishing a network of IRs in the country and beyond, thus complementing the ongoing governmental initiatives to turn the country into 'Digital Bangladesh' by the year 2021.

Background and Literature Review

Generally, an institutional repository is defined as 'an electronic system that captures, disseminates and preserves intellectual results of a group of universities or a single university' (Kamraninia and Abrizah 2010). In recent times, there has been a flurry of research activities regarding IRs and their contribution in educational as well as socio-economic development. There is universal consensus on the importance of IRs, although different authorities have focused on different beneficial aspects of IRs. Summarizing the various schools of thought, Prosser (2003) maintains, 'The benefits of institutional repositories to institutions and

individuals are numerous. Most importantly, they ensure the long-term preservation of an institution's academic output. They can also increase its visibility and prestige, and act as an advertisement to attract funding sources, potential new faculty and students. For the individual, they provide a central archive of a researcher's work, they increase its dissemination and so, potentially, its impact on the research community, and they can act as a full CV as all the researcher's output is gathered in one place.' Currently, a number of IR projects are underway in different parts of the world. Consequently, a considerably large volume of research literature on IR initiatives is growing up. At different times, Mercer, Rosenblum and Emmett (2007), Kamraninia and Abrizah (2010), Whitehead (2005), Barwick (2007), Westell (2006) and Yeats (2003), among others, have written extensively on this issue. They writings help our understanding of the IR issue and provide an informative background for taking the IR initiative forward.

Although Bangladesh is counted among the less developed countries and is burdened by an excessively large population (approximately 140 million) living in an area of only 144,000 sqm, the country has made has made significant strides forward in recent years and improved its human development indicators in spite of overpopulation, frequent natural disasters and widespread poverty (Unicef, 2012). The country is also a hotbed for information-driven development activities, under which thousands of rural information centers or telecentres have been set up in the rural areas of the country both by the government and non-government bodies. The government is actively sponsoring the development of information repositories in local languages so that rural and disadvantaged people can avail themselves of much needed information on health, agriculture, employment, education, etc. Encouraged by the ongoing IR initiatives around the world, a few institutions of Bangladesh, especially libraries and information centers, also are showing an active interest in the development of digital repositories at the institutional level. Some such institutions are the University of Dhaka, East West University, BRAC University and International Centre for Diarrheal Disease Research, Bangladesh (ICDDR,B). The first one is the largest and oldest public university of the country and the second and third ones are two of the largest private universities. ICDDR,B, on the other hand, is an internationally reputed center on diarrheal disease research, with a very active research and knowledge sharing agenda. All of these institutions are currently using DSpace, world-renowned open-source repository software developed by the Massachusetts Institute of Technology (MIT) and Hewlett-Packard. However, the IR initiative is still in its infancy in Bangladesh and a lot more needs to be done in the coming days to make the initiative a success.

Objectives of the Study

The study was conducted with the primary objectives of exploring the potentials of turning the DSLs of academic institutions, especially public universities, into a network of institutional repositories and finding out the impacts of such an initiative. Its secondary objectives were

- to identify the obstacles to this initiative,
- to identify the roles of concerned bodies (government, university authorities, academicians, information professionals, etc.) in this initiative, and
- to put forward recommendations for ensuring the success of the initiative.

Methodology

This study mainly focuses on the potentials of the departmental seminar libraries to become a hub of an extensive of network of information and knowledge sharing, especially knowledge and information generated by faculty members and researchers of higher educational institutions like universities. This is based on a survey conducted on four largest public universities of Bangladesh (comprising librarians, faculty members, researchers, students and university authorities), namely University of Dhaka (estd. 1921), University of Rajshahi (estd. 1953), Bangladesh University of Engineering and Technology (estd. 1962) and Bangabandhu Sheikh Mujib Medical University (estd. 1998). Besides, a Focus Group Discussion (FGD) comprising librarians, ICT experts and educationists also was conducted to provide practical insights into the problems and prospects of such an initiative. A structured questionnaire was served among 220 respondents (librarians, faculty members, researchers, students and university authorities in the selected universities) while the FGD was conducted in the premises of the University of Dhaka comprising 11 respondents.

Key Findings

Out of the 220 questionnaires served, 190 filled-in questionnaires were received back. The data was analyzed by a statistical package (Statistical Package for Social Sciences [SPSS], version 12.0). Major findings of the survey are summarized below:

- Different respondents viewed IRs in different ways. While, in the opinion of some respondents, the IRs are 'digital storehouse of knowledge', some other view IRs simply as 'digital libraries', 'collection of digitized research documents', 'collection of departmental dissertation' and 'database of institutional research outputs'. It seems that, they share some common ideas about the nature, scopes and roles of IRs.
- An overwhelming majority of the respondents (90%) agreed that the DSLs of their universities could indeed be turned into IRs. It was found that all groups of respondents were almost equally enthusiastic about the idea.
- The following table shows the group-wise percentage of responses in reply to the question 'What should be the main function(s) of the proposed IRs':

Table 1. Main functions of proposed IRs'

	Librarians	Faculty members	Students/ Researchers	University authorities
Extensive sharing of research outputs	30%	25%	35%	25%
Increased research by faculty members and researchers	25%	25%	15%	25%
Greater exploitation of intellectual properties of the department	15%	10%	20%	15%
Better assessment of local research outputs	15%	20%	10%	15%
Increased institutional prestige	5%	10%	10%	10%
Better management of institutional knowledge	10%	10%	10%	10%

- The major obstacles to transforming the DSLs into IRs, as identified by the respondents are: possible non-cooperation from university authorities (30%), lack of adequate funds (15%), lack of collaboration and coordination among various departments (15%), reluctance of researchers to contribute their research outputs in the IRs (8%), problems relating to copyright and standardization (8%), unavailability of necessary technologies (7%), lack of adequate infrastructure (6%), problem of interoperability among the participating institutions (6%) and lack of adequate manpower (5%).
- While asked to put forward their recommendations for making the proposed initiative a success, the respondents came up with a plethora of suggestions. Foremost of which were: allotment of adequate funds for on a long term basis for the IRs (40%), extensive coordination and collaboration among the participating institutions (40%), well thought-out plans of actions (40%), extensive training for the IR staff (35%), awareness raising among the researchers and IR users (35%), cooperation from the university authorities and government (35%) and continued technological research and innovation (30%).
- The respondents overwhelmingly agree that, transformation of the DSLs into IRs would fundamentally change the roles played by library professionals and would enable them to emerge as subject experts and better knowledge managers. For this, they stress on the importance of continuous skill development through training, networking and research and development.
- The role of IRs as publishers of original research outputs has been highlighted a number of respondents. They foresee a possible conflict between commercial publishers and IR enthusiasts in this regard, although a number of respondents maintain that, the possibility of conflicts could be minimized by clearly spelling out the mandate and the scopes of the IRs.
- In context of Bangladesh, most of the respondents (75%) think that, the problem of funding and internal coordination will pose the most serious threats to the sustainability of the proposed IRs. At present, the DSLs are grappling with various kinds of problems, most notably, lack of funds, technological support and skilled manpower. The respondents opined that, unless these problems could be addressed under a national level government policy, the possibility of failure of the proposed initiative is quite high.
- Majority of the respondents (85%) agreed that, this initiative could be extended beyond the public universities and gradually all higher educational institutions including training centers and colleges also should be brought under the umbrella of this initiative.

- A sizable portion of the respondents (72%) were of the opinion that, this initiative will catapult the notion of subject librarians, which is yet almost unknown in the country, to public attention. One respondent observed that, 'Proliferation of DSL based IRs would inspire a new generation of library and information professionals to emerge as subject librarians and experts. This would accelerate the pace of subject-based research, contributing to the socio-economic development of the country.

Focus Group Discussion

As it has been mentioned earlier, a total of 11 participants took part in the FGD conducted in the premises of Dhaka University, the largest and oldest university in Bangladesh. Five of the participants were library professionals, four were academicians and two were ICT specialists. The topic of the FGD was: 'The problems and prospects of departmental seminar libraries as institutional repositories in public universities in Bangladesh". The key findings:

- All participants agreed that, DSLs can indeed become highly effective institutional repositories, although they all stressed the importance of well thought-out plans, good coordination, adequate funding and unstinted support of the authority to make the initiative a success.
- The library professionals maintained that, skill development of DSL staff will be the key to ensuring effectiveness of the proposed IRs. They emphasized the role of DSLs as publishers of original research works and also the importance of settling the issues relating to copyrights and interoperability. The potential role played by the proposed IRs in the emergence of a new generation of subject experts was also stressed by them.
- The academicians opined that, university authorities must provide leadership and financial support to the proposed initiative. They also highlighted the importance of constant communication, collaboration and cooperation between researchers and information professionals for the success of the endeavor.
- The need for developing a durable, reliable and pervasive network for meeting all the demands of the proposed initiative was underscored by the ICT professionals and librarians and supported by the academicians. Other requirements including hardware and software standardization, translation of research works into vernacular language, continuous training of IR staff, awareness raising and information sharing through workshops, seminars, conferences, etc. were highlighted by the participants.
- Some other key observations of the participants included:
    - The universities should develop a knowledge management framework and the proposed initiative should be integrated within that framework.
    - Digitization is the key to the success of this initiative. Therefore, all obstacles of digitization must be removed.
    - In addition to the use of globally successful software like DSpace, innovation and development of locally suitable technologies should be encouraged.

Key Points and Recommendations

The questionnaire based survey and the FGD came up with one strong assertion: DSLs of the public universities could indeed be turned into effective IRs which would serve the academic and research interests of the universities in multifarious ways. They view possible non-cooperation of university authority and the government, lack of adequate funds and lack of collaboration and coordination among the implementing departments as the main obstacles to this initiative and recommended adequate and continuous funding, extensive internal-coordination and well-devised plans for the success of this initiative. Based on the findings of the survey as well as the FGD, the following recommendations could be made to ensure the success of the proposed IR initiative:

- First of all, the mandate of the proposed IRs will have to be clearly spelled-out, by delineating their scopes, activities and areas of operation.
- Ensuring sustainability of the IRs is crucial because in order for them to be beneficial for the larger cross-sections of people, they must operate smoothly and effectively on a long-term basis.
- There must be adequate funding from the government to make the IRs operational and effective.
- Human resource development is another key area and continued skills-training, exposure to national and international IR exercises, training of trainers (ToT) programs need to be undertaken on a regular basis.

- Awareness rising among the students as well as the general people is vital for making people realize the value of such an initiative. This calls for publication of books, research documents, manuals, posters, leaflets and other advocacy materials.
- Technologies relating to e-publishing and digitization need to be made available so that they can be ubiquitously utilized by the DSLs in the whole country. Local level innovation should be encouraged.
- An extensive plan of translation and retranslation of scholarly materials should be undertaken.
- The ICT infrastructure of the country is the key for the success of this initiative. Therefore, proliferation of internet, strengthening of the communication links and popularization of necessary technologies should be ensured.
- Strong and unhindered collaboration among the stakeholders must be endured so that the project can be implemented smoothly.
- The initiative should be integrated with the various components of the ongoing 'Digital Bangladesh' campaign and the government should provide necessary inputs, resources and organizational support to this project.

Concluding Remarks

As a part of the ongoing governmental initiative to turn the country into 'Digital Bangladesh' by the year 2021, coinciding with the 50-year anniversary of the birth of the country, a massive ICT-based development campaign is underway. Establishment of rural telecentres in every union (local level administrative body), proliferation of broadband and wireless internet in the rural areas, digitization of educational materials, development of e-content repositories and passing of the 'Right to Information Act' are some of the examples of this governmental endeavor. The proposed initiative of transforming the departmental seminar libraries of public universities into institutional repositories, the ongoing Digital Bangladesh campaign could be strengthened immensely. If the DSLs of the universities and higher educational institutions could be transformed into institutional repositories and their intellectual outputs could be utilized for ensuring socio-economic progress of the country, Bangladesh could earn global recognition as a technologically developed, modern country and claim a leading position in the evolving knowledge society.

References

Barwick, J. (2007). Building an institutional repository at Loughborough University: Some experiences. *Program: Electronic Library and Information Systems*, *41*(2), 113-123.

Kamraninia, K. & Abrizah, A. (2010). Librarians' role as change agents for institutional repositories: A case of Malaysian academic libraries. *Malaysian Journal of Library & Information Science*, *15*(3), 121-133.

Mercer, H., Rosenblum, B., & Emmett, A. (2007). A multifaceted approach to promote a university repository: The University of Kansas' experience. *OCLC Systems & Services: International digital library perspectives*, *23*(2), 190-203.

Prosser, D. (2003). Information revolution: Can institutional repositories and open access transform scholarly communications? Retrieved from www.the-elso-gazette.org/magazines/issue15/features/features1.asp

UNICEF. (2012). Bangladesh country profile. Retrieved from www.unicef.org/bangladesh/ cbg_(18.10.08).pdf

Westell, M. (2006). Institutional repositories: Proposed indicators of success. *Library Hi Tech*, *24*(2), 211 - 226.

Whitehead, D. (2005). Repositories: What is the target? An ARROW perspective. *New Review of Information Networking*, *11*(1), 123-134.

Yeats, R. (2003). Institutional repositories. *The Journal of Information and Knowledge Management Systems*, *33*(2), 96-100.

The Inforest Project: An Approach to National Union Catalogue

Serdinç KAYA
Hacettepe University Department of Information Management, Turkey. Email: srdnckaya@gmail.com

Abstract: *Technological developments in mobile environments have made information quickly and easily accessible for every platform in recent years. Inforest Project facilitates access to information independently from time and place in a short time by using technological developments in mobile platforms.*

The announcement of new information on widely used web and mobile environments makes that information accessible for more people. In the light of this information, this study has been conducted to notify people who need information about a resource that was published in the field of "Library and Information Science" in National Union Catalogue, formerly known as TO-KAT, via their mobile devices with Facebook and Twitter accounts.

Keywords: *TO-KAT, library and information science (LIS), mobile devices in LIS.*

Introduction

The announcement of new information on widely used web and mobile environments makes that information to be reachable for more people. In the light of this information, this study has been conducted to notify people who needs information about a resource that was published in the field of "Library and Information Science" in National Union Catalogue, formerly known as TO-KAT, via their mobile devices with Facebook and Twitter accounts. The Project is established by means of HTML5 and Dreamweaver with substructure JQuery Mobile.

User can access to bibliographic data of resource, even, how many resources there are in the information center by the Inforest Project. Announcement of the presence of new information on web and mobile environments makes it possible to reach more people in less time. Some web pages have been created and used to understand the code processing of To-Kat and an account has been taken to announce the new information resource from Twitter and Facebook. Thus, I could see how it works at the background and how I do this project successfully.

I mentioned before that used programs for this project. While I was creating web pages, especially, JQuery Mobile has been used a lot to adapt it for smartphones and tablet pcs. This project has been created on the Google code web service. All information and source codes have been added on this platform to show other users, via wiki.

Despite all, I could not integrate the programs to the To-Kat system. Because, To-Kat is a closed system so I could not interfere the codes to change and share them for Twitter and Facebook. I could not get any permission; moreover, there were lots of officialism to achieve it. For all these reasons, I have just created my thesis and I could make it theoretical.

In the sight of all these works, we can see the benefits of the sharing new information from the all kind of environments. All people want to catch new information independent of the time and place. This project meets the requests and it is very useful for its users.

Cloud Computing as Network Environment in Students Work

Dominik Mirosław Piotrowski
Nicolaus Copernicus University Library, Toruń. Email: dpi@umk.pl

Abstract: *The purpose of the Pecha Kucha was to show the need for literacy education from a variety of services available in the cloud computing as specialist workshop information. Teaching in the field of cloud computing studies related to the management of information could provide tangible benefits in the form of useful learning outcomes. This allows students and future information professionals in their work begin to enjoy the benefits of cloud computing SaaS model, thereby freeing up of buying expensive licenses and install on your PC commercial software.*

Pecha Kucha brings wider issues of Cloud Computing. The aim of the presentation is to show the ability to use a variety of services and applications available in the cloud as a workshop. These include: office and communication, tools, graphics editors, presentation software, dropbox, applications allowing the managed time and many others. The term "cloud computing" is related to the concept of virtualization. Moreover Pecha Kucha also addresses the issue of data security in the cloud.

Keywords: *Cloud Computing, SaaS, network environment, Dropbox, Google Docs, Pixlr, Prezi, remember the milk, data security in the cloud, teaching.*

Introduction

Purpose of Pecha Kucha

The purpose of the presentation is to show the need for literacy education from a variety of services available in the cloud computing as specialist workshop information. Teaching in the field of cloud computing studies related to the management of information could provide tangible benefits in the form of useful learning outcomes. This allows to the students and future information professionals in their work to begin to enjoy the benefits of cloud computing SaaS model, thereby freeing up of buying expensive licenses and install on your PC commercial software. Meanwhile, the use of cloud resources on a PC, tablet or smartphone would contribute to an informed and effective use of the Network from the very first years of studies.

Introduction to Cloud Computing

Cloud computing is a model based on the using of services provided by the service provider. Functionality is understood as the necessary infrastructure offered by the software. This means eliminating the need to purchase a license or having to install and administration software solution. The consumer pays for the use of a specific service, such as the ability to use a spreadsheet. It does not have to purchase hardware or software. The term "cloud computing" is related to the concept of virtualization. In cloud computing, we deal with following resources for the needs of the customer.

Cloud's Models

Nowadays more and more new features are placed in the cloud computing model. Matter of time before coming to the top of virtualization - the transfer of all software (including the operating system) to the server, the user au thin client installation, having only the interfaces to communicate with the person serving it. There are several models of cloud computing:

- Collocation,
- Infrastructure as a Service (IaaS),
- Platform as a Service PaaS),
- Software as a service (SaaS).

While SaaS is a model in which the client receives the specific functionality he needs and software. He uses such software he needs. He is not interested in equipment, or the environment. But he has only access to specific, functional tools - not necessarily connected with each other through a single interface. Programs are run on your server. The customer is not forced to buy a license for them.

Useful in Work Services in the Cloud

Web applications are a particular advantage, which lead to an interest in the cloud. On the Web there are hundreds of useful tools, and students as a workshop can use the SaaS model, which includes the following services:

- files in the cloud and Dropbox,
- office tools,
- presentations online
- graphic software,
- photo editors,
- communication tools and organizing time.

The Files in the Cloud and Dropbox

By using the cloud to store files through online access to the services you can get in a web browser, and the program installed on the hard drive. If you use more than one computer or work with several people on the same data package, folder of synchronization can be useful. In view of the rapid sharing of data created so important. drop-boxes. These are the folders in the cloud, which we use as well as traditional disk directories. The only difference is that the data is instantly synced to the cloud and other devices that are running the "boxing". The best service of this kind is Dropbox or Google Drive. An important issue is the maintenance of security in the cloud, for example, by encrypting stored data. To achieve this, sample applications like Cloudfogger and Boxcryptor are provided.

Graphics Editors

Retouch of photos in the browser of course may not be as extensive as in the installed program on the disk. But there are interesting applications, particularly useful in high-speed machining. One of the most advanced online image editors is Pixlr. This is a free program that works with a web browser, strongly modelled on Photoshop, not only in the visual. A major advantage is the service layer editor. They make it possible not only to achieve transparency effects and move one object to another, but also to compose images from multiple components, each of which can be freely edited independently. You can choose from the 18 filters. In addition to the standard, such as blur, sharpen, noise, pixel, there are also more spectacular kaleidoscope of waves and water.

Office Tools

Google Docs - based on the SaaS model, it is available free of charge from Google web office suite. It allows you to create and edit documents online in co-operation with other users at the same time. It was created by integrating services together Google Spreadsheets, Writely and technological presentation Tonic Systems. The Google Docs includes: word processor - Document, a program to create multimedia presentations - Presentation, spreadsheet - Spreadsheet, questionnaire - Form and vector graphics editor - Drawing.

Online Presentations

The Prezi is included in the model of cloud computing (SaaS) and is a software development and presentation of the so-called present, virtual canvas. The Prezi is used as a platform for combining linear and non-linear information, and as a tool for presentation in the form of casual brainstorming as well as structured model. The texts, photos, videos and other types of content are posted on canvas (2.5D space), with the possibility of grouping the frames. Authors can then set the relative size and relative position of all objects of the presentation, as well as move them and change their size.

Organizing Time

Even in the world of modern software, tracking the progress of work, ticking the following tasks from the list or remember about projects and deadlines is not easy. The boundary between the office and life is gradually blurred. Increasingly, we work on different computers, and on the go - on mobile devices. We have tasks related to work, school, family, home, and reinterpretations of the order. Increasingly, we could use the possibility to combine different lists and put them in one easily accessible place. There are a numbers of

comprehensive, free solutions for managing tasks and time, but one of the most stable and the most mature is a website called Remember the Milk. Since the Remember the Milk is an online service, so it can easily connect personal tasks, corporate and family.

Can We Trust the Cloud?

The issue of the security of the data stored in the service provider cloud computing is mainly raised by opponents of the new solutions, who are afraid of losing the current status of technology vendors and tools used in practice "niechmurowych" - “not-cloud”. If you look closer, there is really no reason for concern for several reasons. Firstly, the security level guaranteed by the service provider cloud computing is much higher than the level of security in a single statistical company, because spending on security systems and procedures and to train staff in safety systems are significantly higher external service provider than a single firm statistical. Secondly, the provider of such services must, by definition, use much more advanced practices and procedures in the area of security than a single company, which also significantly increases the level of data security guarantee in relation to internal processing centers. This ensures the full protection of data - both before the acquisition by unauthorized users and prevent damage or deletion.

Training in the Field of Cloud Computing

With training in the field of cloud computing in the fields of information management, students can acquire the knowledge, skills and competence useful both at work and college. However, the acquisition of these skills could be achieved by implementing sample exercises using cloud resources and eLearning platform. The most important learning outcomes would be:

- structured knowledge on modern information and communication technologies,
- the ability to use services and applications in the cloud computing,
- understanding the need for the formulation and communication of knowledge about modern technologies and other aspects of the business information.

Summary

Cloud computing heralds a revolution in the world of new technologies. It creates the situation when buying more and more new parts and better computers is less important. All data is already at your fingertips, and the documents, presentations and videos can edit both the PC and using the tablet or smartphone. In light of the above should be paid attention to the need for education in the field of cloud computing to the studies related to the management of information. Students in their work begin to enjoy the benefits of cloud computing SaaS model, thereby freeing up of buying expensive licenses, install on your PC commercial software for more effective communication and collaboration support.

From Newspapers to News Search Systems

Güleda Doğan
Hacettepe University, Department of Information Management, Turkey. Email: guledaduzyol@gmail.com

Abstract: *Today, reading news from internet has become one of the most important reasons for using internet. It is possible to see and read most important news and news topics, also search new and old news with a single search box through news search systems. Main news search systems (news search engines and news metasearch engines) are Google News, AllInOneNews and Yahoo News. This study aims to explain how news search systems work. News clustering and news ranking of news search engines, result extraction component, publication time extraction component, and search engine/database selection component of news metasearch engines will be examined in detail.*

Keywords: *News search systems, news search engines, news metasearch engines.*

Introduction

Main reasons for using news search systems are reading news just as they post, reading new and old news freely which is not possible with newspapers (Liu et al., 2007, p.1017). News search systems covers news search engines and news metasearch engines. The main difference of search/metasearch engines from news search/metasearch engines is that news is time-sensitive. On the other side, main difference between news search engines and news metasearch engines is that news search engines send their web crawlers to news websites periodically, parse the news they crawled, categorize and classify these news (AllInOneNews, 2012; Del Corso, Gullí, and Romani, 2005, p.98; Gulli, 2005, p.880; Liu et al., 2007, p.1017-1018); news metasearch engines transfer user queries to the other search engines, collect news from these search engines and rank these news (AllInOneNews, 2012; Meng, Yu and Liu, 2002, p.54; Liu et al., 2007, p.1017-1018).

News Search Engines

News search engines generally works as Figure 1 (Gulli, 2005).

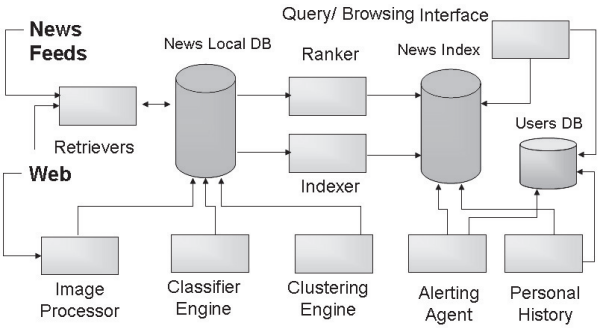

Figure 1. News search engine architecture (Gulli, 2005, p.881)

As Figure 1 indicates, firstly news are retrieved from news sources (via Retrievers - news feeds or web) and stored to a News Local Database, if necessary images are added to the news in News Local Database through Image Processor. News search engines retrieves news from many different news sources Second step is classifying of news in News Local Database using a classifying method/approach. Most of this news comes together with their images, if not (generally, this is the situation for the news retrieved from web) a suitable image for the new is retrieved from the news source and associate to the new in News Local DB with an HTML tag. Each new in News Local DB needs to be classified. Some news have already been classified in the news source, for those that haven't classified different methods are used for classifying and the news associate with a news category such as World, Turkey, Sport, Politics, etc. Next step is measuring similarity of news and clustering of news according to their similarity using different clustering algorithms. Figure 2 illustrates new clustering. According to Figure 2 news from different news sources are clustered according to their similarity using different algorithms. Clustering algorithms used depend on similarity measure used. News clustering can be shown with Gw = S N, where N is news, S is news sources, w is time interval.

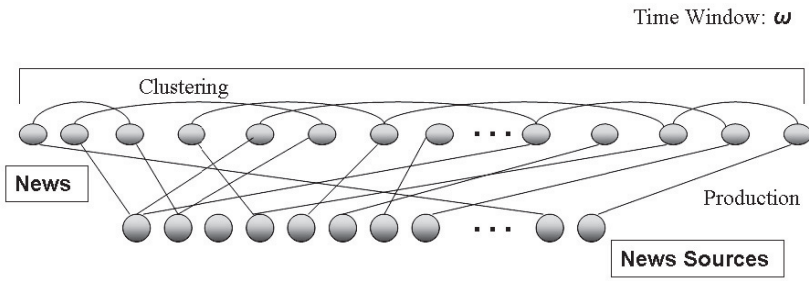

Figure 2. News clustering (Del Corso, Gullí, and Romani, 2005, p. 99)

Ranking of news is very different from ranking of websites because of being time-sensitive. News ranking algorithms ranks news and news sources taking notice of lots of factors such as currency of news, importance of news source etc. After ranking news are indexed. Last step is searching for news through alerting agent, personal history and users databases (AllInOneNews, 2012; Cohen, 2009; Del Corso, Gullí, and Romani, 2005; Gulli, 2005; Newslookup, 2012; Topix, 2012; Wikipedia, 2012).

News Metasearch Engines

General components of news metasearch engines are user interface, search engine connection component, result extraction component, result merging component, search engine/database selection component and publication time extraction component (Liu et al., 2007, p.1017-1018; Meng, Yu and Liu, 2002, p.55). Users type their queries to user interfaces, search engine connection component directs user queries to search engines and bring the result pages through programs, result extraction component extracts search results from result pages, result merging component combines the results (Liu et al., 2007, p.1017-1018; Meng, Yu ve Liu, 2002, p.56).

Search engine/database selection component is necessary for the news metasearch engines contain a large number of search engines (Meng, Yu and Liu, 2002, p.56). A news metaserach engine that contains a large number of news search engines needs an effective "search engine selection algorithm". AllInOneNews uses a revised version of *Optimal Ranking Algorithm.* News search engine selection algorithm determines the best matching news search engines for the user query according to the results brought and uses only these news search engines for the query (Liu et al., 2007, p.1019).

News is one of the most time-sensitive information. Usefullness of current news is the most important reason for this. Current news needs to be ranked upper parts in this context through extracting date and time of news. Publication time extracting component provide extracting the date and time of the news. One of the important problems in terms of publication time extraction is heterogeneity between news sources. For example, meaning of the date 04/03/07 differs by country news come from, April, 3, 2007 or March, 7, 2007. (Liu et al., 2007, p.1019, 1021).

The quality of result merging algorithm directly effects efficiency of news metasearch engine. AllInOneNews uses an improved result merging algorithm. This method determines the rank of each result depend on several factors such as the quality of selected news search engines results come from, common term number between the result title and the query etc. (Liu et al., 2007, p.1021).

Conclusion

Popularity of news search systems are increased with the increasing of reading news from Internet. Almost all newspapers are free from internet today and these online free newspapers take the place of printed newspaper for more people day by day. It is very important to know the algorithm of news search systems for the online newspapers and other news sources to be retrieved and read more.

References

AllInOneNews. (2012). *About us*. http://www.allinonenews.com/aboutUs.html

Cohen, J. (2009). *Same protocol, more options for news publishers*. http://googlenewsblog.blogspot.be/2009/12/same-protocol-more-options-for-news.html

Del Corso, G. M., Gullí, A., & Romani, F. (2005). Ranking a stream of news. In *WWW'05, Special Interest Tracks and Posters of the 14th International Conference on World Wide Web* (p. 880-881), May 10-14, 2005, Chiba, Japan.

Gullí, A. (2005). The anatomy of a news search engine. In *WWW'05, Special interest tracks and posters of the 14th International Conference on World Wide Web* (pp.97-106), May 10-14, 2005, Chiba, Japan.

Bauin, S., & Rothman, H. (1992). Impact of journals as proxies for citation counts. In P. Weingart, R. Sehringer, & M. Winterhager (Eds.), *Representations of science and technology* (pp. 225-239). Leiden: DSWO Press.

Liu, K-L., Meng, W., Qiu, J., Yu, C., Raghavan, V., Wu, Z., Lu, Y., He, H. & Zhao, H. (2007). AllInOneNews: Development and evaluation of a large-scale news metasearch engine. In *Proceedings of the 2007 ACM SIGMOD International Conference on Management of Data* (p.1017-1028), June 11-14, 2007, Beijing, China.

Meng, W., Yu, C., & Liu, K-L. (2002). Building efficient and effective metasearch engines. *ACM Computing Surveys*, *34*(1), 48-84.

Kling, R. & Elliott, M. (1994). *Digital library design for usability*. Retrieved July 19, 2011 from http://www.csdl.tamu.edu/DL94/paper/kling.html

Newslookup. (2012). *About newslookup.com.* http://www.newslookup.com/about.html

Topix. (2012). *About us*. http://www.topix.net/topix/about

Wikipedia. (2012). *Google news*. http://en.wikipedia.org/wiki/Google_News#cite_note-3

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