Editorial

Rather belatedly, we have come to the final issue of *Library and Information Research* for 2009: and, regretfully, this will be my final issue as joint editor. Editing the journal is a very rewarding, but time-consuming, role, and there comes a point when the demands of the day job have to come first! Indeed, this issue would have been even more delayed had it not been for the sterling work (as ever) of my co-editor, Miggie Pickton, ably aided by Jonathan Jones, who has joined the team as Editorial Assistant. Between them, they have undertaken the lion's share of the copy editing of the papers in this issue, and ensured that it has come to virtual press without greater delay.

However, with my resignation it is a case of out with the old and in with the new! The Editorial Board of *Library and Information Research* is delighted to welcome warmly a new joint editor, Dr. Alison Pickard, from the School of Computing, Engineering and Information Sciences at Northumbria University. We are sure that Alison will be a real asset to the journal, and that she will make an invaluable contribution to the work of the Library & Information Research Group. We wish her all the best in her work for the journal. We would also like to extend a similarly warm welcome to Jonathan Jones who, as mentioned above, has also joined the team and has already volunteered a significant amount of time to the journal, both in terms of assisting with editorial work and with scanning and uploading earlier hard copy issues into the journal site, thus creating an online open access archive for the journal.

And, as ever, we are sure that you will find the papers and reviews in this issue of both intrinsic interest and of practical use, whatever your role and working context may be. The editorial team at *Library and Information Research* are constantly seeking to extend the sectoral coverage of the journal, so it is particularly pleasing to include in this issue a number of papers that focus primarily on the work of schools libraries – in this case, in Scotland.

But first, one of the main concerns of *Library and Information Research* has always been to introduce readers to new – and sometimes quite challenging – research methods, thus extending the range of techniques available in the methodological toolbox available for LIS research into practice. Thus Naomi Hay-Gibson's paper discussing the pros and cons of her use of Skype to conduct 'remote' interviews with participants of her PhD study into risk management within records management. In addition to the use of VoIP, Hay-Gibson also used an internet-based electronic whiteboard application to provide some genuinely participative online collaboration between the researcher and the interviewee. Although the methods were not entirely without problems (as they say, never work with children, animals or technology!), they certainly offer interesting potential for enabling data collection from across the globe without the expense – or time – involved in extended travel.

Staying with the theme of innovation in research techniques, Andrew Shenton discusses the development and potential benefits of the use of modelling-through-reaction in user studies, to investigate the specification of preferred features of the 'ideal information entity'. In particular, he focuses on the potential of the method to help bridge the gap between empirical research and the information professional to whom he suggests such research all too often may seem, on the surface, 'irrelevant to their real areas of interest'.

The paper by David Bawden *et al*. pursues the theme that is surely dear to the heart of most of those working in library and information services: how do we measure and demonstrate the value and impact of what we do on the users of our services? Whilst it is relatively easy to measure *performance*, as the authors comment, measuring *impact* is another matter altogether. However, in a time of threatened budgets such as the present, it is ever more important that we are able to do just that. In the paper, the authors report their experiences evaluating the impact of public library services in a couple of case study settings, using an approach based on Christine Urquhart's Value project for health care information services.

In an educational environment where widening participation is high on the policy agenda, Muir *et al*.'s paper discussing research into the accessibility of the content of e-books for students with diverse needs is of considerable value in itself. However, it is especially pleasing to be able to publish the paper on a further two counts: firstly, it is good to note that the paper was jointly authored by a team that involved collaboration between an academic, a practitioner and an MSc student – this very much embodies the collaborative and collegial spirit of *Library and Information Research*. Secondly, the research was partly made possible by funds given to Dr. Muir as successful recipient of the 2008 CILIP LIRG Research Award. It is good to see the Award being put to such beneficial use: we hope that the research findings will be used by all those involved in the future design, development, publication and provision of e-books.

We are also delighted to include the paper by Ian McCracken, outlining a holistic approach to engage secondary school pupils in Govan in Glasgow in developing their own skills and becoming independent learners. Collaboration between teachers and the school library – and the pupils themselves – has led to pupils not only developing their own transferable and employability skills levels, but being able to *identify* and demonstrate these skills, with a concomitant impact on subsequent employment levels. The paper also reports significant impact of the project in terms of pupils' enhanced self-esteem, behaviour and life chances.

With a rather broader remit, but still focussing on skills development, Christine Irving discusses the use of case studies as exemplars of good practice to enrich the National Information Literacy Framework in Scotland. It is heartening to note the attention being given at national level to the development of information literacy skills and to read about so many good initiatives taking place at grass roots level in schools, colleges and other organisations across Scotland. The recognition given in the paper to the benefits to be had from sharing practice and lessons learnt is also very welcome and certainly offers food for thought. And in a continuation of the theme of information literacy initiatives in Scotland, Sue

Cromar discusses the work of the Libraries R 4 Learning project, which was funded by the Scottish Library and Information Council (SLIC) to develop and deliver a programme of advocacy - designed to inspire and encourage effective, equal working partnerships between librarians and teachers in local secondary schools – again, echoing the theme of collaboration and collegiality in the achievement of shared objectives.

This issue of *Library and Information Research* also introduces a new feature that we hope to be able to bring you on a fairly regular basis: a round-up of links and references to recent research on a topical subject. In this issue, Janet Clapton, Project Information Manager at the Social Care Institute for Excellence, has identified recent work on open access publishing. Although she is quick to point out that this is intended to be a 'taster' rather than a comprehensive review, it will provide an excellent starting point for anyone wanting to evaluate the recent evidence on the chosen subject, and we are grateful to Janet for all the time that has gone into the preparation of the review.

Finally, we offer a number of reviews of recently published books. These include Philip Thornborow and Phil Oakman's review of Graham Matthews *et al*. latest work on disaster management in archives, libraries and museums; Rachel Fitzgerald's review of Michael Sauers' book on the latest search techniques and tools facilitated by Web 2.0; Rob Howe's review of Jane Devine and Francine Effer-Sider's book entitled *Going Beyond Google*; and last but not least, Kate Littlemore's review of Sarah McNicol's work on joint-use libraries, a concept which is surely set to be a growing feature of the 21st Century library landscape. The reviewers are all practitioners at The University of Northampton. We thank them for the time spent on preparing these book reviews and would like to remind readers that writing a review for *Library and Information Research* offers an excellent means of dipping your toes in the publication water: if you or your organisation would like to contribute to the book reviews section of the journal then we would be pleased to hear from you.

We hope you enjoy this issue, and that these papers stimulate ideas for research that you can carry out in your own work context, and hopefully write about for the journal. And please remember that we are always happy to receive your feedback on the content of the journal.

Louise Cooke

Libraries R 4 Learning: Supporting the Curriculum for Excellence in Aberdeenshire

Sue Cromar

Abstract

In April 2009, Aberdeenshire Library and Information Service (ALIS) was awarded £10,000 by the Scottish Library and Information Council (SLIC) to develop and deliver a programme of advocacy - designed to inspire and encourage effective, equal working partnerships between librarians and teachers in local secondary schools. All materials created over the lifetime of this project will be published under a Creative Commons licence, and made available to be used and adapted by library professionals across Scotland. This article outlines some of the ideas and observations that fed into our successful proposal, and sets out our plans for achieving key outcomes of the Libraries R 4 Learning project.

1 Context

ALIS is an integrated service, supporting both school and public libraries across Aberdeenshire from its headquarters in Oldmeldrum. Operations are managed by a team of Network Librarians based in Aberdeenshire's seventeen secondary schools, or Academies. These professionals have responsibility for school library services, and for all public library branches in their catchment area. The Network Librarians are supported by a central team of professional staff, including a Young People's Services Librarian, a Primary Schools' Librarian and an Information Literacy Librarian.

Our planned approach to information literacy development across Aberdeenshire is defined in our current strategy document:

"*to support the integration of core, transferable information and critical literacy skills within formal and informal learning experiences, supporting Aberdeenshire's citizens of all ages to become effective lifelong learners*" (ALIS, 2009).

Sue Cromar

Sue Cromar is Information Literacy Librarian for Aberdeenshire Library and Information Service, and an active participant of Aberdeenshire's Literacy Steering Group.

Email: suecromar@googlemail.com

Received 17 November 2009

Accepted 04 December 2009

Over the last ten years, our librarians have used centrally produced workbooks and other support materials with first year pupils, covering a variety of basic information skills. By making these materials available for use in every Academy, our intention had been to ensure that Aberdeenshire's pupils received the same breadth of instruction, whichever school they attended. However, while some Network Librarians were allocated several hours (generally from timetabled English lessons) to work through the materials with pupils, others were given very little time and were restricted to covering the essentials of Dewey, alphabetical order and library orientation.

With few exceptions, information literacy sessions had been delivered as one-off events, usually confined to the first few weeks of S1, and were rarely reinforced or developed as pupils progressed through the school. This was very much a bolt-on approach, often bearing little relation to the rest of the curriculum. Not surprisingly, librarians reported that pupils often seemed unable to relate what they had learned – way back at the start of their first term – to the topic investigations or research tasks set by their class teachers.

Some Academies had already begun to work towards a more effective model, where information and critical literacy skills are situated within meaningful classroom activities or real-life situations across all subjects and year groups, and Network Librarians are full partners in the development and delivery of learning materials. Our strategy is to develop this approach across all schools in Aberdeenshire.

2 Perceptions

Since coming into post as Information Literacy Librarian in October 2008 I've visited all our Academies, have seen some innovative and imaginative practice around information literacy support, and witnessed some inspirational teacher - librarian partnerships in action. However, the impact of information literacy interventions has varied greatly across Aberdeenshire. To take our new strategy forward, Network Librarians must overcome barriers grounded in outdated and inaccurate – but deeply rooted – perceptions around the role of school librarians in learning and teaching. These professionals are often cast firmly in the role of support staff, considered to be serving a purely functional role in the school, and unlikely to be taken seriously as potential collaborators.

3 The Curriculum for Excellence – an ideal opportunity for partnership

Scottish schools are in the process of implementing the Curriculum for Excellence, a new and transformational approach to learning and teaching which aims "to ensure that all the children and young people of Scotland develop the attributes, knowledge and skills they will need if they are to flourish in life, learning and work, now and in the future" (Learning and Teaching Scotland, 2009a). The curriculum has been redesigned to provide pupils with a broad general education and places a strong emphasis on the development of skills as "a sound basis for their development as lifelong learners in their adult, social and working lives" (Learning and Teaching Scotland, 2009b). Cross-cutting themes of health and wellbeing, literacy and numeracy ensure that skills for learning and life are embedded within all subject areas from preschool onwards.

For the first time in their professional lives, many secondary school teachers are being asked to take account of pupils' literacy experiences in their own subject area. Scientists and mathematicians, for example, are faced with the problem of how to develop pupils' reading, writing, listening and talking experiences in their laboratory or classroom. They are not expected to manage these changes in isolation, however, but in partnership with "a range of practitioners, including those who work in school library resource centres, who make an enormous contribution to the development of the literacy skills of children and young people" (Learning & Teaching Scotland, 2009c). Teachers are actively encouraged to team up with professionals beyond the classroom to create real and relevant experiences for their pupils which will help them develop and apply literacy skills in a wide range of contexts.
School librarians across Scotland recognise that this period of change presents a golden opportunity to forge meaningful, effective working partnerships with teaching staff - to "get out there and start knocking on doors", become "part of the solution". (Blane, 2009). The Libraries R 4 Learning project was conceived to support our local Network Librarian team to do just that. We are also keen to share good practice with schools and Local Authorities elsewhere.

4 Project aims

Our core aim is to raise the profile of Network Librarians as partners in developing and delivering experiences and outcomes within and beyond the classroom, especially those which relate to literacy across the curriculum. 'Literacy across learning' outcomes are organised within the headings of *reading, writing, listening and talking*, then by further subdivisions which include *finding and using information*, and *understanding, analysing and evaluating*. A number of these outcomes and experiences include statements which relate directly to information literacy, for example:
"To help me develop an informed view, I am exploring the techniques used to influence my opinion. I can recognise persuasion and assess the reliability of information and credibility and value of my sources". (LIT 3-18a)
" .... I recognise when it is appropriate to quote from sources and when I should put points into my own words. I can acknowledge my sources appropriately". (LIT 3-25a)

(Learning and Teaching Scotland, 2009d)

We will bring academics and school library staff together for planning and development events designed to get teaching staff reflecting on the ways in which librarians can support their work with pupils, and on how they could collaborate to develop learning experiences. It is essential that we develop the skills and confidence of our Network Librarians as advocates of their service – and themselves as competent professionals – and improve their working knowledge of the curriculum. Finally, we hope to inspire effective, equal working partnerships, established to solve common concerns around, for example, plagiarism and critical literacy skills.

5 Why advocacy?

With the support of Gilian Dawson from the University of Aberdeen, our Network Librarians have already begun to look at the concepts of advocacy and relationship marketing, and how they can be applied in schools. It is not our intention to run a traditional 'here we are, we're great, come and get us' marketing campaign. Instead, we're looking at how we can nurture and sustain relationships at the 'chalk-face'. We must get across that librarians are well equipped to support their teaching colleagues through the process of integrating literacy across learning – sharing the load, saving them time, ensuring that key curriculum outcomes and experiences are met. We also aim to convey the message that information and critical literacy skills are relevant for life, not just for libraries!

6 Project outcomes and outputs

Training in advocacy and relationship marketing skills for our Network Librarians and Young People's Services staff has already begun. Within the next few weeks, some staff will receive multimedia production and editing training, after which we will begin to produce a bank of materials to support CPD activities in schools. Our project outputs will include a series of presentations and short multimedia clips for use with teachers, school management teams and curriculum planners. The materials will focus on the integration of information literacy skills across formal and informal learning, and everyday life situations. There will be a strong emphasis on partnership, and the added value which professional librarians can bring to planning for learning and teaching.

7 Why multimedia?

The production of a series of individual film clips will be one of the core outputs of this project. As librarians, we can talk passionately and at length to our teaching colleagues about the value of information skills and their place in the curriculum, but much of what we have to say is 'second hand news'. We believe it's time that our audience heard about the value of information literacy skills 'from the horse's mouth' - from learners and practitioners in the 'real world' who exploit these skills on a daily basis.

Writing on the crucial importance of advocacy in promoting the development of information literacy across learning, Peter Godwin asserts that "[we] must get the message across simply and forcefully …. using well illustrated material with punchy examples of where IL counts" (Godwin, 2009, 3). This is precisely what we hope to achieve by using multimedia to present our case. In this instance, our 'message' is the importance of information literacy skills in a range of situations, and the role that librarians can play in supporting literacy across learning. Our aim is to create something inspirational, memorable, thought-provoking and engaging – and flexible, so that materials can be used as a whole or as individual sound-bites.

Video clips will include interviews with academics, school and university librarians, curriculum managers, learners, employers, and professionals such as journalists, scientists and health workers. Along with any other documentation we produce over the life of this project, all video clips will be made available to download as Creative Commons materials from the Slainte website

(www.slainte.org.uk) – an online community for library and information professionals in Scotland – to be used as a complete package, or adapted as required by other library and information practitioners.

8 Next steps

From November 2009, we will plan and produce our DVD and compile other support materials for both school librarians and teaching staff. A training and development day will be held in the Spring of 2010 to bring Network Librarians together with curriculum managers and Literacy Co-ordinators from each of the Academies. The aim of the event will be to investigate practical ways in which information and critical literacy skills can be integrated within classroom practice, and how teacher-librarian partnerships could be encouraged and supported in schools. When all project training and development events have taken place, we will translate our outcomes into some guidelines for school librarians and academics relating to advocacy, partnership working and integrating literacy across learning.

The first project outputs – a set of CPD materials for use with teaching staff and curriculum managers - will be published online by the end of April 2010, followed shortly afterwards by a variety of multimedia materials. Finally, our Network Librarian team will pilot these in schools across Aberdeenshire and an evaluation will be included in our final project report. We are grateful to SLIC for giving us this opportunity to transform our service in the schools sector and hope our experiences will be of relevance and value to the rest of the Scottish library and information community and beyond.

References

Aberdeenshire Library and Information Service (2009) *Draft information literacy strategy.*

Blane, D. (2009) 'Librarians should get out there … and start knocking on doors', *Times Educational Supplement* [online], 6 February. URL: http://www.tes.co.uk/article.aspx?storycode=6008405 [accessed 22.7.09].

Godwin, P. (2009) *Information literacy "sans frontieres"*. URL: http://librariesofthefuture.jiscinvolve.org/files/2009/03/information-literacy-_sans-frontieres_.doc [accessed 23.10.09].

Learning and Teaching Scotland (2009a) *Building the curriculum 4: skills for learning, skills for life and skills for work*. URL: http://www.ltscotland.org.uk/curriculumforexcellence/buildingthecurriculum/guidance/btc4/index.asp [accessed 9 .11.09].

Learning and Teaching Scotland (2009b) *Curriculum for excellence purposes and aims: improving learning*. URL: http://www.ltscotland.org.uk/curriculumforexcellence/curriculumoverview/aims/index.asp [accessed 23 10.09].

Learning and Teaching Scotland (2009c) *Literacy across learning: principles and practice*. URL:

http://www.ltscotland.org.uk/Images/literacy_across_learning_principles_practice_tcm4-540108.pdf [accessed: 23.10.09].
Learning and Teaching Scotland (2009d) *Literacy: experiences and outcomes*. URL: http://www.ltscotland.org.uk/Images/literacy_experiences_outcomes_tcm4-539998.pdf [accessed: 2310.09].

Collecting case studies / exemplars of good practice to enrich The National Information Literacy Framework (Scotland)

Christine Irving

Abstract

This paper discusses the challenges, process and reasons for collecting case studies / exemplars of good practice from practitioners to enrich The National Information Literacy Framework (Scotland). The lessons learned show that there is a tendency for people to think they are not doing anything special and therefore do not respond to emails for exemplars of good practice. They are however once contacted happy to share their practice. It is therefore essential to use networks of contacts, leave plenty of time to talk, visit and work with people on submitting their work as a case study / exemplar. Sharing practice also contributes to professional development both for the individual and their community and to the field of research.

Background information is provided on the national framework, the project funding, the project partners and the range of examples collected for different sectors. Plus use of templates and Web 2 tools.

1 Introduction

1.1 A national overarching framework

One of the key aims of The Scottish Information Literacy Project has been the development of a national overarching framework of information literacy skills and competencies which all sectors of education can recognize and develop or which can be applied to the world of work. Equipping learners with skills needed

Christine Irving

Christine Irving is the Researcher / Project Officer of the Scottish Information Literacy Project where she developed the National Information Literacy Framework (Scotland) with cross sector partners. Previous projects she has been involved in include online interactive material for lifelong learners / post 16 year olds plus co-authoring an Information Handling Skills national qualification at Intermediate 2 for SQA (Scottish Qualifications Authority) and the accompanying assessment (NAB).

Email: christine.irving@gcal.ac.uk

Received 03 November 2009

Accepted 04 December 2009

for the 21st century is seen as a key tool for the embedding of information literacy in schools, FE, HE, and lifelong learning and for life.

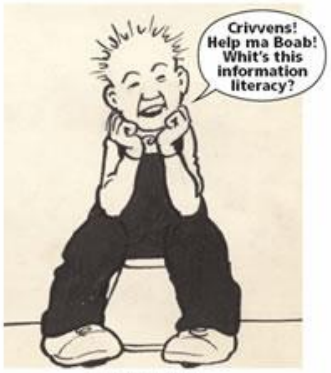


Image used with permission: DC Thomson

With funds from Eduserv a draft framework was developed and piloted in conjunction with cross sector partners with the aim of:

- defining information literacy learning in terms of statements of skills, knowledge and understanding;
- enabling the notional levelling process and outcomes to become transparent and clearly understood by other learning providers, receiving organisations and or employers to meet the needs of the lifelong learner more effectively;
- supporting a continuing learning process through identifying a learning pathway within the context of SCQF (Scottish Credit Qualification Framework) (SCQF, 2005) as part of an educational guidance or personal development planning process;
- mapping the existing learning that is taking place allocating a notional level to learning outcomes utilising relevant reference points such as the SCQF generic level descriptors with the intention of providing a general shared understanding of each level which can then be linked to academic, vocational or professional practice;
- incorporating and highlight CILIP's information literacy skills and competences definition (CILIP, 2004) and SQA's Information Handling Skills Intermediate 2 qualification.

The target audience for the framework is:

- library and information professionals working in learning and teaching environments / organisations;
- learning and teaching organisations e.g. Learning and Teaching Scotland, Skills Development Scotland;
- organisations involved in qualifications and accreditation e.g. CILIP, SQA.

The draft framework levels cover:

- Schools
- Secondary Schools / Further Education Colleges
- Further / Higher Education
- Higher Education
- Lifelong learning including all information-using communities e.g. workplaces, adult literacies, community learning, public libraries

and have common skills running through them. Although there are differences in the grouping and wording of these skills, the commonality enables these skills to be learnt / developed at different levels within different sectors for information

tasks appropriate for that level then further developed to the level other sectors require, thus creating a learning pathway for education or personal development planning process.

1.2 Project Partners

The development of the draft framework has been possible due to collaboration and the general aims of the project which is to:

- attract and work with partners in secondary and tertiary education, the world of work and the wider community;
- work primarily within the Scottish educational system but also to work with interested parties UK wide and abroad;
- work with relevant non governmental agencies such as Learning and Teaching Scotland, the Scottish Credit and Qualifications Framework, Scottish Qualifications Authority, Skills Development Scotland, and professional bodies such as CILIP, SCURL, SCONUL;
- research the role and importance of information literacy in the workplace both in the public and corporate sectors and work with partners in these areas;
- research the role and importance of information literacy in continuing professional development (CPD);
- engage in information literacy advocacy through all available channels and opportunities such as the Scottish Parliament and Executive, relevant NGO's and the educational and information media;
- develop links with agencies in other countries undertaking information literacy advocacy.

'Working with partners to create an information literate Scotland' has enabled the framework to develop from an initial idea discussed with a member of the advisory group to the revised online interactive framework it is today with case studies and exemplars of good practice plus news of information literacy activities, developments and strategies.

2 Methodology

In 2007-8 the draft framework underwent a piloting exercise with the project's advisory group, project partners from schools, further education colleges, universities and different workplaces plus adult literacy initiatives.

The project's advisory group and partners identified that the framework needed to be enriched with exemplars of good practice which would demonstrate how specific competencies can:

- be applied in practice for different subjects, levels of pupils / students and how this could be linked to the framework, the steps involved and showing the connection;
- demonstrate links to higher level complex thinking skills and innovation.

The above would see a departure from other national frameworks in Australia, New Zealand and America that just have the skills levels. It would aim to show through the exemplars how the skills had been mapped into course design, recognising different modes of teaching and learning. For example evidence based, problem based plus target disciplines that value information and feed forward / link with further developments including educational development strategies such as:

- the Curriculum for Excellence within schools and FE sector specifically the Literacy Across Learning Outcomes and Experiences (Learning and Teaching Scotland, 2009) which illustrates the progressional nature of literacy skills (including what they refer to as information / critical literacy) and how these play an important role in all learning
- initiatives within further and higher education.

Discussions were also held with senior personnel at LTS (Learning and Teaching Scotland). All emphasised the importance of including exemplars of good practice drawn from real life experience.

Some exemplars had been identified through the draft framework piloting exercise but more were needed and an initial approach of asking for exemplars of good practice was met by silence. A new more proactive strategy had to be adopted as it seemed that people did not see their activities as 'exemplars of good practice' so there was a need to explore, identify, discuss, visit and see information literacy activities being carried out by project partners and interested parties and then ask if the activity could be used as an exemplar / case study.

On the lifelong learning side CILIP's Information Literacy definition has no levels or depths of skills required attached to it; however research carried out by the project into 'The role of information literacy in the workplace: an exploratory qualitative study' (Crawford and Irving, 2009) funded by The British Academy determined that:

- those in the workplace would need to look at how individuals define information literacy in terms of their own qualifications, training and work experience. For example Lloyd and Somerville's (2006) work with fire-fighters highlights smell and touch as information sources;
- those involved in adult or community learning may wish to use levels within the other sectors that they feel are appropriate.

This study helped us to increase the number of workplace partners and introduced us to Adult Literacy networks and encouraged us to look at the role of public libraries in developing information literacy training programmes.

On a government level The Scottish Government (2007) published *Skills for Scotland: A Lifelong Skills Strategy*. This set out their ambitions for skills, in a lifelong learning context, from cradle to grave. The Strategy set out three major areas in which change was required: a focus on individual development, a response to the needs of the economy and the demand of employers and the creation of cohesive structures. The key civil servant responsible for this strategy was identified for us by one of our workplace partners (The Scottish Government

Information Services) and following a lengthy protracted period fruitful discussions were held resulting in an agreement that the project would submit a number of information literacy case studies from different sectors.

In addition the discussions with LTS also led to work funded by them to identify exemplars of good practice within the cross curricular area of information literacy for dissemination through their Online Service Curriculum for Excellence - Sharing Practice (Learning and Teaching Scotland, 2009a) which offers an important mechanism to keep education authority and school staff informed and supported.

The addition of these exemplars to add value to the LTS Online Service by:

- facilitating access to practitioners' good practices and classroom resources within this important cross curricular area;
- demonstrating how specific information literacy competencies can be applied in practice;
- identifying exemplars linked to different levels within the curriculum, subjects and resources;
    - the exemplars matched against the National Information Literacy Framework (Scotland) standards / levels;
- the exemplars and the framework will provide school teachers with an identified standard of information literacy skills at the identified levels and contribute to the development of information literacy and media literacy skills among school pupils;
    - it should help to alleviate the concerns of teachers about their capacity to take on this work identified by Professor Dorothy Williams of Robert Gordon University (Williams and Wavell, 2006);
- providing resources that will contribute to the development of Glow which is the "world's first national intranet for education" within schools (Learning and Teaching Scotland, 2009b);
- providing information for education managers within this important cross curricular area;
- sharing expertise from library and information science research to education in a key area for the 21st Century.

The work to be informed by, advised and supported by Project partners:

- North Lanarkshire Council, Education Resource Service;
- Information and Learning Resources, City of Edinburgh Council, Children and Families Department;
- North Ayrshire Education Resources Service.

The above support made a big difference and thirteen case studies were identified. However the process was a much longer one than anticipated, over running the original project timescale of February 2008 - December 2008.

3 Exemplars / case studies

Although the exemplars / case studies were slow to come / identify we have managed to collect a range of examples for each section which are now listed within the restructured framework which is a weblog (National Information Literacy Framework Scotland, 2009).

3.1 School case studies / exemplars of good practice

- Information Literacy Model – ExPLORE (City of Edinburgh)
- North Ayrshire Information Literacy Toolkit – Primary Schools
- Schools toolkit for Information Literacy – Nursery – primary 7 (12 year olds) (Aberdeenshire)
- Transition from primary to secondary school (Craigholme School, Glasgow)
- Sharing practice – IL case studies (Curriculum for Excellence)
- School Information Literacy Policy (Benton Park High School, Leeds)
- Real and Relevant – Information Literacy Skills for the 21st Century Learner (Literacy Development Officer, Curriculum for Excellence)

3.2 Secondary school case studies / exemplars of good practice

- Govan High staff induction programme that challenges ICT assumptions
- 1st Year English Library Research project Biography (Ardrossan Academy)
- Supporting pupils in developing their information skills in an academic context (Caldervale High School, Airdrie)
- Helping senior pupils with research for Higher History extended essays (Dunbar Grammar School)
- East Lothian School Librarians IL activities
- Largs Academy – information literacy activities
- James Gillespie High School - developing S1 information literacy
- Information literacy using the ExPLORE model (Gracemount High School, Edinburgh)
- Information literacy and the draft CfE Science Outcomes (Holy Rood High School)
- Information Literacy Audit & School Information Literacy working group (Oban High School)

3.3 FE college case studies / exemplars of good practice

- IL diagnostic assessment @ Carnegie College

3.4 HE college case studies / exemplars of good practice

- University of Abertay – Appendix D
- Loughborough University – Appendix E

Although the Loughborough example is not a Scottish example it does demonstrate how two different universities have used the same set of skills – the SCONUL 7 Pillars Model as their starting point but have embedded / introduced them differently.

Other HE /university case studies / exemplars of good practice added include:

- Dundee University and three Dundee High Schools
- Glasgow Caledonian University – iLearn Framework

3.5 Workplace case studies / exemplars of good practice

- NHS Scotland information literacy competency framework
- Skills for Scotland: A Lifelong Skills Strategy
- Scottish Government Information Services IL activities

3.6 Public library case studies / exemplars of good practice

- Inverclyde Libraries – Greenock; Dumfries and Galloway Libraries – Ewart Library; Glasgow Libraries – Mitchell Library and Glasgow REAL Learning Centres

The idea of using a weblog to facilitate the transformation of the 68 page pdf draft information literacy framework into a more flexible tool that enabled case studies / exemplars of good practice to be added emerged as experience with the project blog grew and the potential of what could be done with blogs apart from blogging. The static pages would contain the framework details whilst the blog postings would facilitate the communication of any news, activities and developments and enable interested parties to comment on any of the postings or on the framework pages.

It is early days yet but the idea seemed to be well received by the project advisory group then by the project's open meeting in September 2009.

4 Lessons learned

Calls for exemplars of good practice or best practice do not work on their own. Whether it is the actual term or words used people are reluctant to step forward for whatever reasons. Another study Learning Literacies for a Digital Age (LLiDA)

project (2009) confirmed similar difficulties. Whether this is a nationality or professional trait or a combination of both it leaves the collector with the task of seeking out activities, investigating them and then making a decision on whether it fits the qualities they think makes a good exemplar of good / best practice or case study. It is necessary to use a variety of means but using networks of contacts, getting out and about talking to and seeing first hand what people are doing is an amazing experience which despite being time consuming is definitely worthwhile and has proved successful.

Whilst the LTS (2009) sharing practice funded case studies used a template (Figure 1) which resulted in a professional looking tabbed mini website providing some consistency to layout and preventing scrolling as the text is broken up, it did take some effort to convince those providing the case studies that the template was there to help them not make more work for them.

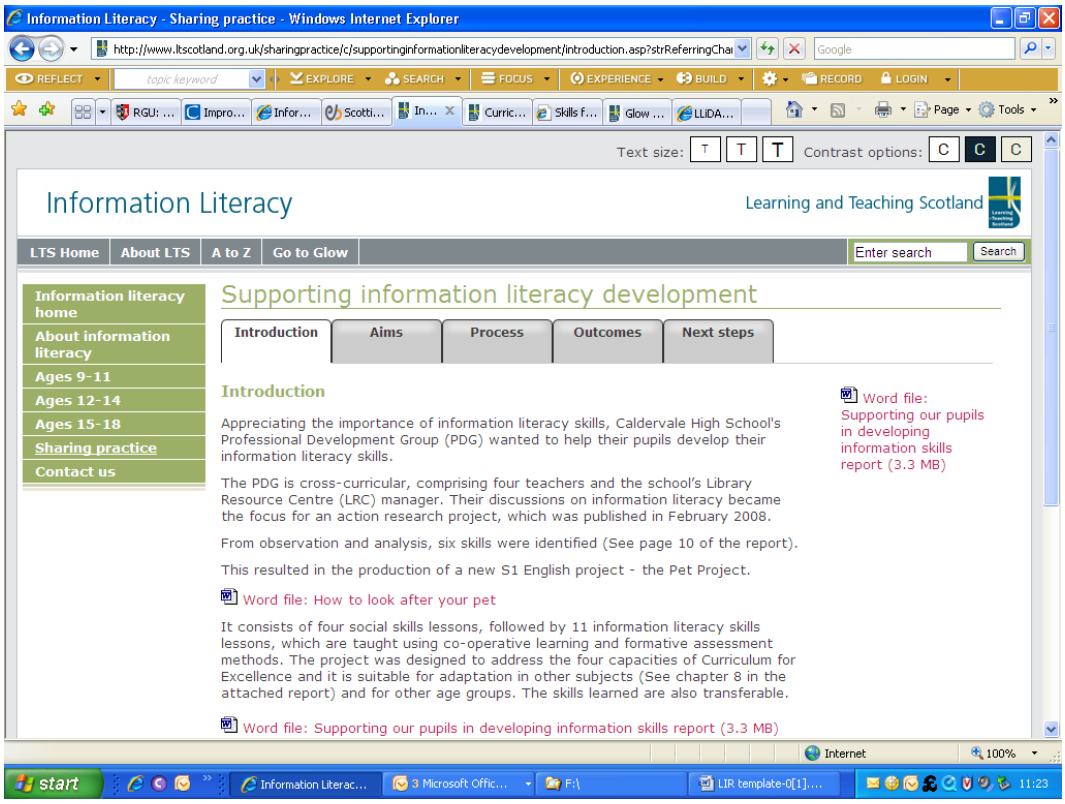


Figure 1: Screenshot of online LTS case study

However the project did not have the IT resources that LTS have so the decision was taken to summarise the activity with contact details listed for anyone who wanted more information given. Hopefully the facility of being able to comment on the exemplar or the individual whose exemplar it is being able to provide an update for all to see may prove more useful.

Interestingly the LLiDA project mentioned above have used a Wiki, another Web 2.0 tool, to display their snapshots / exemplars.

5 Conclusion

So was it worth all the effort of collecting case studies / exemplars? Definitely, as it provides ideas and benchmarking possibilities not only for those new to the profession or sector but to the existing LIS practitioner and hopefully will encourage sharing practice and collaborative working. It also gives the research community insights into what information literacy activities LIS practitioner are involved in.

Whilst the information literacy activities need to be reviewed and updated to incorporate new resources, tools, technology it does provide a useful snapshot of what is happening in Scotland at the moment and possible areas for research and development.

In addition "Sharing good practice within and beyond their own establishments and cluster" along with "personal reading and research, including engaging with online resources and discussing and sharing good practice through these resources" are recognised as part of best professional development (The Scottish Government, 2009, 4-5). Not just for the individual concerned but also their community and interested parties and contributes to the field of research.

References

CILIP (2004) *CILIP information literacy definition*. URL:

http://www.cilip.org.uk/get-involved/advocacy/learning/information-literacy/pages/definition.aspx

[accessed 25.01.2010].

Learning and Teaching Scotland (2009) *Curriculum for Excellence - Sharing Practice.* URL: http://www.ltscotland.org.uk/curriculumforexcellence/sharingpractice/index.asp [accessed 07.10.09].

Learning and Teaching Scotland (2009a) *Glow Scotland.* URL: http://www.ltscotland.org.uk/glowscotland/about/index.asp [accessed 07.10.09].

Learning and Teaching Scotland (2009b) *Information literacy: Sharing practice.* URL: http://www.ltscotland.org.uk/informationliteracy/sharingpractice/index.asp [accessed 07.10.09].

Learning Literacies for a Digital Age (LLiDA) (2009) URL: http://www.academy.gcal.ac.uk/llida/ [accessed 07.10.09].

Lloyd, A. and Somerville, M. (2006) Working information, *Journal of Workplace Learning* [online], **18** (3), 186-198. URL: http://www.emeraldinsight.com/Insight/viewContentItem.do;jsessionid=82CC989E3E974CE452002C759CF9AB65?contentType=Article&contentId=1546157 [accessed 07.10.09].

National Information Literacy Framework Scotland (2009) URL: http://caledonianblogs.net/nilfs/# [accessed 07.10.09].

The Scottish Government (2007) *Skills for Scotland: A Lifelong Skills Strategy* URL: http://www.scotland.gov.uk/Topics/Education/skills-strategy [accessed 07.10.09].

The Scottish Government (2009) *towards a professional development strategy for curriculum for excellence: management board discussion paper*. URL: http://www.ltscotland.org.uk/publications/t/publication_tcm4565600.asp?strReferringChannel=curriculumforexcellence [accessed 07.10.09].

SCQF (2005) *Scottish Credit Qualification Framework*. URL: http://www.scqf.org.uk/ [accessed 25.01.2010].

Williams, D.A. and Wavell, C. (2006) *Teachers' Conceptions of Information Literacy in Relation to their Classroom Practice.* URL: http://www.rgu.ac.uk/abs/research/page.cfm?pge=13088# [accessed 07.10.09].

Acknowledgement

The project would like to acknowledge the following funding bodies: Esmee Fairbairn Foundation; Eduserv; Learning and Teaching Scotland (LTS) for their belief in the project and the project team.

Thanks go to the Project Advisory Group, Project Partners and all case study participants whose contributions are gratefully appreciated. Thanks also go to the Project Director John Crawford whose support and belief in me contributes to my professional development.

The future is skills

Ian McCracken

Abstract

In this article, the author describes the formation, development and current status of a skills system in use in a Glasgow Secondary School. The school's circumstances are outlined, and then the article explains how issues and observations with the school library led to a number of hypotheses and a rationale. The progress of the skills system as it evolved and became part of a Whole School concept is explored, and the characteristics of the system, which the school believes is unique, are discussed. The ways in which this Future Skills System relates to the new curriculum in Scotland are indicated, together with the means by which the system brings together careers, employers, expectations and skills. The article concludes by highlighting the current stage in the process.

Introduction

In its follow-through report published earlier this year, H M Inspectorate of Education (HMIE) identified Govan High School's development of "Future Skills" as an example of good practice: "…that allows the school to identify, develop record and report the achievements of individual young people" (HMIE, 2009). While many documents, reports and organisations have highlighted the importance of skills, Govan High School has gone a significant step further by specifically identifying these skills, and integrating them throughout the school in every way possible. The fact that HMIE has now publically recognised this achievement – and the further steps that the school has undertaken (as described in the quotation above) – demonstrates clearly the unique nature of the skills system and underlying philosophy that the school has undertaken.

While the Future Skills System was being developed, evolved and continually tested rigorously, the school would not and did not publicise the work in which it was engaged. A stage was reached when it was ready to meet public scrutiny. There has subsequently been considerable positive reaction from schools,

Ian McCracken

Ian McCracken is the Learning Resource Centre Manager in Govan High School, Glasgow. He has been a keen advocate of skills connections for many years.

Email: IMcCracken@govanhigh.glasgow.sch.uk

Received 26 October 2009

Accepted 04 December 2009

colleges, universities, employers and educationalists. Senior Library and Information Managers have recognised in the Future Skills System a serious and dedicated effort to, at long last, tackle properly the chimera of transferable skills that have so long eluded definition.

Govan High School

Govan High School is a secondary school (ages 11-18) in the South-West of Glasgow. The school is in a district that often features near the top of any list of deprived areas in Scotland, according to a number of reports. Over the years, the number of pupils in the catchment area has shrunk, and is now less than 400. Employment in the area has for generations been very high. Few pupils traditionally go on to university straight from school. The school is very much at the centre of the community and makes every effort to try and overcome some of the real and perceived barriers that have prevented pupils from – in the words of the school mantra – "achieving their full potential". Staff who work here are very committed to assisting pupils as much as possible and willingly work above and beyond formal job description – e g by running lunchtime clubs, out of school events, etc. Those most involved with the System described in this article are the Headteacher, who has now worked in the school for 14 years, the librarian who has worked here for 29 years, and the Deputy Headteacher, who although he has worked in the school for less time, has seen the issues affecting pupils at first hand, starting when he was appointed with a role in Behaviour Support.

Current curricular structure in Scotland

"A Curriculum for Excellence" is the name given to the current system in place in Scotland. To quote from the website (Learning and Teaching Scotland, 2009a): "The purpose of Curriculum for Excellence is encapsulated in the four capacities - to enable each child or young person to be a successful learner, a confident individual, a responsible citizen and an effective contributor.

The experiences and outcomes in the range of curriculum areas build in the attributes and capabilities which support the development of the four capacities. This means that, taken together across curriculum areas, the experiences and outcomes contribute to the attributes and capabilities leading to the four capacities."

Future Skills – starting points

The development of Future Skills had a number of roots. A key one was not the definition of the skills themselves, but a "Skills Rationale". Having worked with teachers and pupils in the library for many years, and having been involved in much collaborative work with other organisations in the library and information world, it was clear to me that only by establishing a foundation of solid and rational ground rules could we proceed with any hope of success to making any skills focus actually work. Further details can be found in the next section.

We therefore looked at what the word "skills" signified, and came to the firm conclusion that these must be cognitive and communicative as well as mechanical. We also considered where these skills should be found, and were in no doubt that

they must be in every kind of work that was being done, whether in the classroom, the library/resource centre or on an educational visit out of school. I knew from working with different departments and establishments that there was much idiosyncrasy or randomness in the description of skills. It therefore became a key principle that everyone (staff and pupils) should use the same skills set, and that we should establish the notion of a "Common Vocabulary". By ensuring that people throughout the school were referring to the same skills by the same names, it eliminated confusion and – for the first time – enabled connections to be made throughout the school.

When we describe these principles to the many visitors who come to hear and see future skills in action, their simplicity often surprises people. However, we have never yet come across any individual or organisation that has actually established its own principles or indeed appears to have considered the importance of underlying principles themselves. Librarians and information managers often encounter "assumptions" by others and as a consequence have to help users find information that others have "assumed" the users can find for themselves. In the education field, my view is that the most common assumption is that pupils/students have excellent analytical skills. I cannot see how it can be possible for there to be skills transferability *without* analytical ability: the pupil/student has to be able to analyse the task in one subject and be able to recognise the same basic element in another subject – but who teaches analytical skills?

As part of its consideration of the principles involved, we looked at the notion of the independent learner. It became clear that to be independent learners, pupils/students must be involved in their learning. This not only reinforced the Common Vocabulary – for how could pupils become involved in their learning without having a way of sharing information about it – but it also led us to put the learner at the centre of everything we were doing: in theory and in practice.

Skills origins - library

Like many librarians, I had often been surprised at how often tasks that teachers set pupils in the library often took many skills for granted, or where skills were mentioned at all, that they were described in entirely different ways by different teachers. Frequently, this resulted in teachers getting angry with pupils – they often thought that the problem was because pupils were deliberately wasting time, whereas from what I could see the issue was more fundamental.

Again like many librarians, I spent much time before library bookings talking to individual teachers to minimise any potential issues. This would succeed for a while, but had to be done time and again as new staff arrived at the school. I felt that a good starting point for a more inclusive approach would be Keywords. On discovering that different subjects even had a different name for these (some subjects called them "Topic words"), I then concluded that the only sensible approach would be to look for underlying skills – in that way, it would not matter what teachers called things. After much reflection, I concluded that the skills required to produce useful keywords were: analytical ability, flexibility, ability to make connections and good vocabulary.

An opportunity to put this theory into practice came in the form of a Homework Club that I started with support from local Community Workers and the school's Behaviour Support teachers. The group of pupils attending the Homework Club did not fit any conventional stereotype of those most likely to attend such clubs so were therefore an ideal group for our purposes. As well as homework emanating from teachers, we also used a wide range of fun learning activities and through both highlighted skills. As can be imagined this took a lot of time and effort, but we persevered as the pupils were clearly enjoying being given more opportunity to become involved and were often competing with one another to be first to recognise their skills.

When it was decided that the library would be converted into a Learning Resource Centre, it became essential to seek pupil helpers to assist in the complicated process. A number of senior pupils volunteered, and provided invaluable assistance. Starting from the list of skills compiled for the Homework Club, the helpers and I identified a whole range of skills that would be useful. The purpose of the list was three-fold: first of all so that we could look at a wide range of skills that pupils were themselves identifying, secondly so that they could judge their own progress "before" and "after", and thirdly so that pupils completing university or job applications could more confidently describe their own skills, and could explain very clearly how they had gained these skills.

The screenshot in Appendix 1 highlights the skills that between us we developed in the left-hand column. The scores listed show some of those that one pupil estimated she had improved.

When we reviewed the skills, it was obvious that there was some duplication or overlap; also that if skills were to be utilised in a wider context some of them would be far too specific or would apply only to libraries. The next stage is set out below.

Skills background - whole school

A staff visit to a school in Ireland, an innovative Primary-Secondary Pupil Induction programme and a Visual-Audio-Kinaesthetic Staff Training Programme were the very diverse starting points for the development of Future Skills at a whole school level from its inception in the library/resource centre.

In Ireland, we were looking at various initiatives taking place in a partner school. One of these was a mentoring programme, in which younger pupils received much help and support from older pupils. The school had an extensive training programme for the older pupils, who were able to speak with confidence, articulacy, intelligence and understanding about the role they played in supporting those in lower year groups. What caused complete silence and indeed consternation were questions to the mentors from us regarding what skills the older pupils themselves got out of it – this was not covered in the training, and none of the pupils appeared to have thought of it for themselves – an assumption/gap of transferable and analytical skills that gave us much food for thought.

An external consultancy was employed to run an in-service activity on Visual, Auditory and Kinaesthetic Skills (Child Central, 2009) Staff were then divided into groups to ensure a mix of different subjects. As a participant in one group, it was soon evident to me that there was much more in common than teachers themselves realised in how various subjects were tackled. I offered to pull all the ideas together and look for underlying techniques and ideas. This later became very valuable evidence to demonstrate to any subject-bound staff that there was much more in common across the subjects than had been previously recognised. It had also brought to the fore yet again the issue of transferability of skills, as Teacher A would state the name of a process that encouraged Visual Skills in their subject, and everyone else would look blank until Teacher A described what actually took place, and Teacher B would say "oh yes, we call that….". The fact that teachers themselves were experiencing the effects of a lack of any collective way of describing things made the later introduction of the Common Vocabulary resonate much more clearly than it would have done otherwise.

As a change from the standard routine of showing next year's new intake of pupils round the school in June, we had devised a title "Skills, Thrills and Fun" and invited staff to run activities on a theme – crime and investigation. In order to maintain the curriculum for other year-groups, middle school pupils had been drafted in to assist staff on a random allocation basis to make sure the younger pupils did not get lost, or to take them to dining hall, and other facilities. It soon became evident in many of the activities that these middle school helpers had many more skills. They took part most enthusiastically and were equally able in helping the younger pupils with a whole variety of tasks. What was remarkable was that some of the pupils who were best at doing this had hitherto either demonstrated no interest in anything, or were "challenging" pupils. Again, the skills implications were considerable and made us think about how these could be replicated. We chose what we thought at the time would be a good idea – trying to "convert" other lessons to the Skills, Thrills, Fun formula. We also made a list of skills that had been used in one of the activities, but it soon became evident that trying to convert lessons was an endless and tedious job, and that the skills list was far too narrow in conception.

We therefore had an Open Meeting for staff to suggest skills and arrived at a provisional list. The experiences that many staff had undergone through Skills, Thrills and Fun and the Visual, Auditory and Kinaesthetic Training had helped to engender an understanding of the importance of this meeting, so there was a large turnout from a wide variety of departments.

We wanted to make sure that the skills identified were the "right" skills, so checked to see which of them could be identified in **all** Standard Grade subjects (not only the ones taught in Govan High). This "matching process" confirmed to the school that the skills permeated the whole Scottish curriculum. It also helped to establish a principle; namely that connecting the Future Skills System to other facets of education was viable, affirmed the universality of the Future Skills System and provided us with a very adaptable analytical tool. This process, which we have logically dubbed "matching", gave us a final list of 71 skills. (See Appendix 2 for full list) We then decided it was important to group them in "families" and came up with seven categories: The Doer, The Contributor, The

Connector, The Communicator, The Originator, The Sorter and The Decider. The concept was and is that everyone is a mixture of skills from all of these categories, and that many if not most people will have significant "grey areas" or hidden skills which various experience and better analytical skills can help them recognise. We pictured these skills in a circle with "The Learner" in the middle, to signify that the model applied to pupils and adults, and that each learner needed to have a variety of types of skill. We also wanted to emphasise the fact that every learning area (not just traditional classrooms) contributed to the potential development of a wide range of the skills: we did not want a situation for example where the English Department in school might "assume" that it could or should just focus on the skills of the Communicator, or the Technical Department assume that it equated with the Doer. Such narrow thinking would have been totally contrary to our way of thinking – fortunately any fears we might have had in that respect were completely groundless, or were eliminated through the extensive staff training process, which included all categories of staff, not just teachers. From our abortive experiment with Skills, Thrills and Fun (described above), we had also come up with a radical way of approaching change – no longer would teachers (or other staff) have to discard all the work they currently did and have to start again, but instead, all they would have to do would be to highlight skills that were already present in their lessons, and involve pupils in this process.

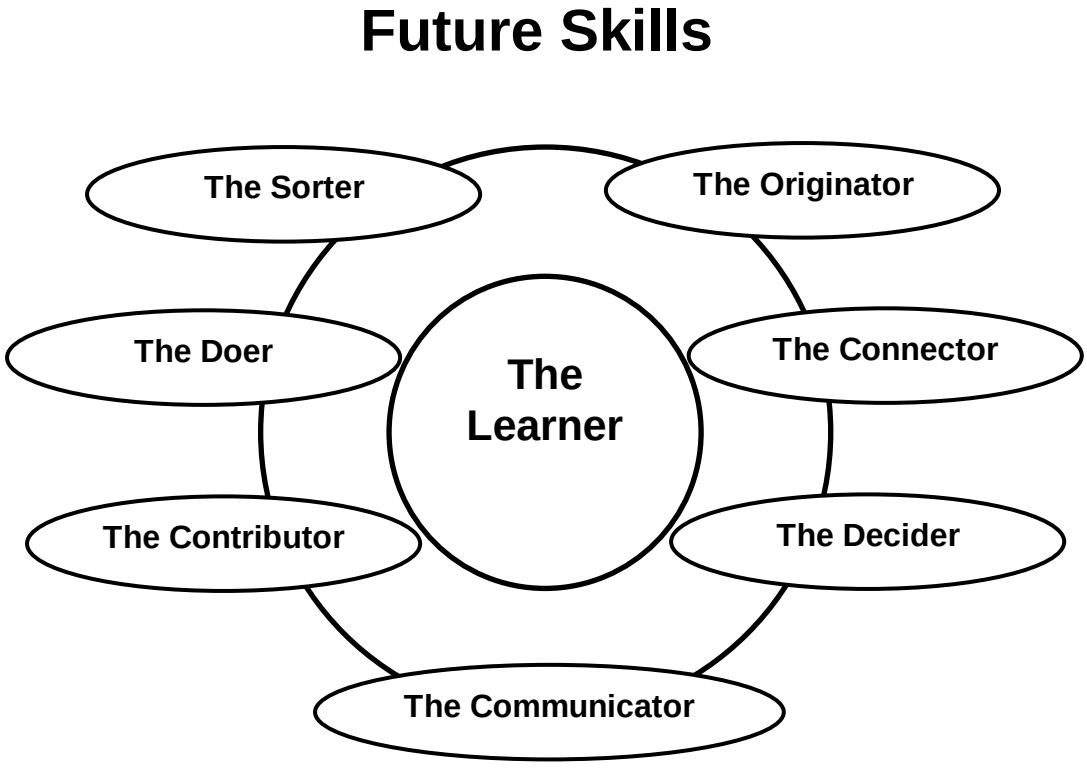


Figure 2: Model illustrating the Future Skills 'families'.

When several years later the Curriculum for Excellence used some similar terminology in its four capacities - "Effective Contributor", "Responsible Citizen" it gave us some considerable satisfaction that we had been first to recognise the importance of personalising the terminology.

Once we had refined our skills list through the medium of the Standard Grade matching process described above, we also realised that, now that we had our definitive skills list, they could be matched to anything else – so we have progressively matched them to individual lessons and learning experiences, course plans, national and local employers' expectations, to the Skills for Scotland strategy (Scottish Government, 2007) to 100 wide-ranging careers, as well as to Curriculum for Excellence (in principle and in detail). Given that there is a great deal of talk about employers' expectations but often little substance, it is perhaps useful to note that Govan High School liaises with the Glasgow South Business Club and matched the Future Skills directly to responses from employers. When the President of the Glasgow South Business Club saw the Future Skills System for himself, he stated to the school "This is exactly what Businesses are looking for".

Recording pupils' skills

With the financial assistance of the local council, and the technical expertise of an educational ICT Company, the school has now set up a database where all the skills gained by individual pupils can be recorded, analysed and evaluated. Pupils can ask to have skills certificates printed for them. These not only show what skills the pupils have gained, which skills areas are their strong point, which developmental events and activities they have been involved in, but also indicates how successful they have been in each of the four capacities of a Curriculum for Excellence.

Parallels

From 2004, the Future Skills System has gradually been developed. Being centrally involved throughout this time, I have been able to see very clearly what I term macrocosm-microcosm parallels between the system and library services. Many of the Future Skills have a clear place within libraries – e. g. most of the skills in the Communicator, Connector, Decider, Doer families in particular fall into this category. If pupils/students are involved in helping in the library, then self-evidently, the Contributor comes into play.

Effects in the library/resource centre

Highlighting skills pupils can learn in the library by using more generic skill names has helped me – and I think can assist other librarians – in drawing teachers' attention to connections between different subject requirements and the place that libraries can play in their development. By emphasising the connections, rather than the skills themselves, I believe more continuity can be achieved, and have found teachers more willing to listen – as skills taught in the classroom are now being shown to have a direct bridge to "libraries" Also, by using a non-subject specific terminology, the librarian in my opinion is much better placed to draw together elements from a diverse range of subjects and to become a hub or connecting point for any given curricular initiative, since the skills' names will not ever again have to be changed when any new system change is introduced; all that needs to be done is for the skills to be matched in. If a matching in process has already been established by the librarian, in co-

operation with teaching staff, then the benefits of this continuity should immediately be recognised.

Wider effects

Since the Future Skills system has come into operation and despite a significant downturn in the local and national economy, there has been a marked increase in number of the school's leavers going into jobs, education and training. Pupils giving us feedback after successful interviews have on a number of occasions indicated how impressed prospective employers have been with the certificates. In terms of the effect on pupils – they are now often much more self-confident, since not only members of staff but their fellow class-members are highlighting skills they previously did not know they possessed. While impossible to measure in any formal way, the many visitors who come to the school from throughout the country invariably comment on pupils' engagement with skills. While it may sound a simple thing, pupils being confidently able to identify specific skills that they have acquired or developed across the whole curriculum is much harder than might be supposed. I have read many articles about skills, but never seen one yet in which the skills are named, are in use under the same names across the curriculum, link classroom work with wider achievement, and above all actively involve pupils in the process.

Squaring the circle

Lest readers think that the information literacy element has been lost, recently this author utilised the Future Skills system to analyse all the Outcomes and Experiences from Curriculum for Excellence that explicitly or implicitly included an information literacy element (Learning and Teaching Scotland, 2009b).

This process was valuable for a number of reasons: first of all, it enabled overarching skills connections to be made throughout all the subject-specific outcomes/experiences, which makes it much easier to identify the skills required and employ a common vocabulary to assist pupils in their acquisition. Secondly, it also helped to identify which skills would be most required by pupils in reaching these outcomes. In ascending order, these were: Image modelling; Reaching conclusions; Setting information out; Big picture connections, adapting communication, discovering, processing information, gathering facts, ICT E-lit; and – top of the list – Analytical skills.

Conclusion

The development of the Future Skills System has enabled the school to identify and track skills throughout the curriculum, and into wider achievements. It is also of considerable value in identifying the need to focus on underlying skills, what these skills are and how important they are in a number of different settings. Libraries are often already in the forefront of supporting the acquisition of many of these skills; therefore the use of such a system of this may even prove useful in demonstrating in a clear and comprehensive way how much libraries can contribute to pupils/students gaining a range of invaluable and truly transferable skills

References

Child Central (2009) URL: http://www.child-central.com/learning-styles-children.html [accessed 20.9.09]

HM Inspectorate of Education (2009) *Follow-through report on Govan High School*, URL: http://www.hmie.gov.uk/documents/followup/GovanHSFT8433836.html [accessed 20.9.09]

Learning and Teaching Scotland (2009a) *A Curriculum for Excellence*, URL: http://www.ltscotland.org.uk/curriculumforexcellence/curriculumoverview/aims/fourcapacities.asp [accessed 20.9.09]

Learning and Teaching Scotland (2009b) *Experiences and outcomes*, URL: http://www.ltscotland.org.uk/curriculumforexcellence/experiencesandoutcomes/index.asp [accessed 20.9.09]

Scottish Government (2007) *Skills for Scotland*, URL: http://www.scotland.gov.uk/Publications/2007/09/06091114/0 [accessed 10.1.08 *et seq*.]

Appendix 1: Screenshot of sample skills profile

Skills

I have put into tables the skills that I have improved or developed during my time working in the LRC. I have rated them on a scale of 1 to 10, 1 being the ones I was least good/confident at.

Skills I have improved:

Skill	Before working in the LRC	After working in the LRC
Communication	4	8
Teamwork	4	8
Organisation	8	10
Leadership	3	5
Problem Solving	7	8
Listening & Responding	5	7
Planning	8	9
Specialised Terms	3	6
Alphabetisation	8	10
ICT/Internet	7	9
Skimming	4	8
Self-confidence	4	7
Motivation	4	8
Self-concept	4	6
Sense of Achievement	5	10
Opportunity to take responsibility	4	8
Reflection	8	9
Resilience	8	9
Participation	5	8
Developing informed attitudes	5	7
Social Skills	5	9
Patience	3	7
Dedication to task	6	10
Reliability	8	9

Appendix 2: List of Future Skills in the seven categories

THE COMMUNICATOR

Adapting communication	Being able to put across information, ideas, etc in a way that's clear and takes account of their possible effects
Creating word pictures	If you see a picture, video, football game etc, being good at putting what you've seen into words
Creative writing	Being good at imagining situations or events, and describing them in writing
Empathetic skills	Acting with a lot of understanding for others' feelings, or for the feel of a situation
Focus on feeling	Being able to tune into the way emotions (yours or someone else's) ought to play a part in something you're involved in
ICT-E-lit (electronic literacy)	Being able to search for the answer to something easily on the Internet, and knowing when you've found the information that meets your needs
Note taking	Being able to write down the important points from a source of information, such as a book, internet site or speech
Objective reporting	Being able to describe something that happened, without including how you felt about it, or any of its personal effects on you
Presentational skills	Being able to show others work you (or others) have done or produced in an attractive way
Self projection	Being aware of how your actions or behaviour are seen by others, and making changes in the way you act, so that you come over the way you really want to
Setting information out	Being able to take information that you've heard or read and make it clear to others
Sharing ideas	Being able to and willing to explain your ideas to others, and not just keep them to yourself
Summarising skills	Being able to put the main points of a long piece of information (written or spoken) clearly across to others
Vocabulary	Being good at picking up new words in your own language or others, and enjoying doing so

THE CONNECTOR

Analytical skills	Being able to take a situation and study it fully, and understand what are the most important things about it
Auditory learning skills	Listening to a skill or task being described, and being able to learn how to do it yourself, from what you've heard
Big picture connections	If someone sees the "big picture connections", he or she understands that there's more involved in a situation than it appears, and can take a mental step back from things
Current affairs awareness	Being interested in important issues affecting you, going on around you or in the world
Diagrammatic interpretation	Being able to easily understand information in the form of a line drawing, pattern, blueprint, plan DIY drawing, musical score and so on
Future orientation	Thinking about and planning for the future, instead of only getting caught up with what's happening right now
Gathering facts	Being able to find the right information that you need for a task
Image modelling	Being able to have a clear picture in your head of something without actually seeing it
Networking connections	Being able to see how different things tie together
Objective rational thinking	Looking at a situation on its own, without letting your personal beliefs get in the way
Perceptive interpretation	Having the ability to watch or hear something and understand the meaning behind it
Processing information	Not just listening to what people say to you, or something you've read, but being able to think about what it means
Synthesizing skills	Being able to bring together ideas or information from different sources and put them into an overall picture that you can understand, and that makes sense
Very observant	Being good at seeing exactly what's going on around you
Visual learning skills	Watching a skill or task being shown, and being able to do it yourself from what you've seen

THE CONTRIBUTOR

Consideration	Being able to take into account the feelings or ideas of others
Co-operation	Being willing to work together with others without wanting your own way all the time
Environmentally friendly	Wanting to do your part in helping the planet by recycling, cutting down global warming by saving energy, and so on
Helping others	Being willing to give your time, understanding skills or patience in supporting others
Participation	Being willing to take part in jobs, activities or tasks
Team skills	Being able to work well with others in a group – knowing when to speak up, when to listen, and how best to help the group

THE DECIDER

Decision-making	Being able to know clearly how and when it's important to make choices
Efficiency	Knowing what you're intending to do, and having everything you need to hand without waiting until the last minute
Focus on task	Being able to keep everything else out of your mind, except the one thing you're working on
Judgement	Being able to make the best decisions. This might include ones where there is no easy answer, or where you can only use previous experiences to come to an answer
Leadership	Being the kind of person that others like to follow. Someone that sets an example, or is good at encouraging others
Objective peer evaluation	Looking at others just on their situations or abilities, without letting friendship or dislike get in the way
Organising	Being good at getting things into an order that's easy to understand and use. Not getting into a mess with your work or your life
Reaching conclusions	Having studied a situation, being able to understand clearly what caused it, and what the results are
Self-evaluation and correction	Being able to look at how you're behaving, or the work you're doing, understand that you could do better, and what you need to do to achieve this
Strategic planning	Starting with a clear general plan of what you want to do, rather than thinking just about small details one at a time

THE DOER

3-D spatial judgement	Being good at hitting what you're aiming at, or being able to judge distances, spaces and objects well
Action learning skills	Copying a skill or task being shown, and being able to learn how to act it out yourself
Deriving activity from instruction	Being able to carry out a task that you have only read or heard what you're supposed to do
Experiencing	Being willing to involve yourself in some real-life experience, and the completely different feelings you get from doing so
Following instructions	Being able to carry out everything you've been given to do in the way you're supposed to be doing it
Hand-eye co-ordination	Having the skills to match what movements you're making with what you're actually seeing during a task or a sport
ICT - practical	Being able to use a lot of different word processing and graphics programs
Mechanical skills	Being confident with machinery, types of apparatus, engines and so on
Perseverance	Being willing to keep on with something, even when you feel you're not getting anywhere, or might even fail
Practical application	Being handy with a wide range of skills and tools that are used to make or repair things, or in other real-life situations
Practical measuring	Being able to use a range of measuring tools such as rulers, scales, graphs, measuring jugs, and so on
Pushing boundaries	Being willing to try harder than you or others might expect, or push yourself into new areas
Using equipment	Being good with a lot of different tools and instruments needed for a particular kind of work or hobby

THE ORIGINATOR

Creativity	Having the kind of brain that often comes up with new ideas, works of art, pieces of music etc.
Designing	Being able to put together all the parts that make up a plan, menu or new idea
Discovering	Being able to find out about new things or new situations
Imagination	Having the ability to dream up ideas for stories, paintings, or thinking how things could be very different from what they are
Independent expression	Being able to come up with your own ways of doing things, without copying other people's opinions, fashions or artistic ideas
Independent working	Being able to come up with your own answers, without copying other people's work

THE SORTER

Assimilation	Being able to take in all the facts and make some sense of them
Counting skills	Being good with numbers and figures
Flexibility	Being good at trying different ways of finding answers to a problem, or being willing to change plans to go along with other people
Neurological connections	Being able to take in one kind of information to your brain, and change it into another form
Open to discussion	Able to listen to someone else's ideas, and willing to understand that you may not always be right
Problem-solving	Being good at coming up with ways of solving tricky situations
Weighing up different points of view	Being willing and able to take a number of different choices or opinions, and to look at them against one another

Recent research and resources on: Open access publishing

(compiled November 09)

Janet Clapton

What is this column?

This is an occasional column, intended to provide a selection of recently published articles and other resources on a specific topic.

The selection is a 'taster' rather than being exhaustive, and is not a comprehensive review of evidence on the topic.

The aim is to encourage LIS practitioners' current awareness: delve into the resources and links and see where it takes you!

How was material gathered?

Material was gathered by using approaches such as:

1. Searching Tic Tocs Table of Contents service to find RSS feeds on relevant journals: see www.tictocs.ac.uk/
2. Using a feed reader such as Google Reader to process and search within the RSS feeds www.google.com/reader
3. Searching across CILIP resources for members: see www.cilip.org.uk Member resources (requires member login).
4. Drawing on LIRG website links: see www.cilip.org.uk/specialinterestgroups/bysubject/research/links

Generally the current year's issues of journals' tables of contents are used, but slightly older material in repositories is also included.

Janet Clapton

Janet Clapton is Project Information Manager at the Social Care Institute for Excellence.

Email: janet.clapton@scie.org.uk

Received 13 November 2009

Accepted 04 December 2009

What is "Open Access?"

"Open Access" is a model of research publication where material is freely available on the internet. There is debate around the impact and utility of this type of approach.

Wikipedia gives a detailed definition and discussion:
http://en.wikipedia.org/wiki/Open_access

See also CILIP Information Team's webpage on open access journals:
www.cilip.org.uk/informationadvice/practicalguides/openaccess/

Suggested resources

Directory of Open Access Journals www.doaj.org/ including 97 journals listed under Library and Information Science

OpenJ-Gate www.openj-gate.org including 79 journals listed under Library and Information Sciences

Registry of Open Access Repositories http://roar.eprints.org/

The Open Access Directory http://oad.simmons.edu/oadwiki/Main_Page

Budapest Open Access Initiative http://www.soros.org/openaccess
This loose collaboration is committed to promoting the open access publication of research, within a diversity of approaches.

Biomed Central www.biomedcentral.com/ Biomed Central is a major open access publisher.

Selected items from recent journals

Wong, Yi-Ling (San Jose State University) (2009). Open access in libraries. *Library Student Journal*, **4**, January 2009.
The journal is written for and by Masters degree LIS students. This paper, from the latest issue, is a critical discussion of the general background and basic concepts of open access, as well as its current developments. (Full text access available via journal home page www.librarystudentjournal.org/index.php/lsj).

Waaijers, Leo. (2009) Publish and cherish with non-proprietary peer review Systems. *Ariadne*, **59.**
The author defines non-proprietary peer review as "peer review systems that do not require the assignment of copyright to the organiser of the peer review i.e. the publisher". (Full text accessible via journal home page at www.ariadne.ac.uk/).

Joint, N. (2009). The Antaeus column: does the 'open access' advantage exist? A librarian's perspective. *Library Review*, **58**(7), 477-481.
Discussion paper on running and evaluating open access repositories. (Full text accessible via CILIP member resources).

Joint, N. (2009). The "author pays" model of access and UK-wide information strategy. *Library Review*, **58**(9), 630-637.
Comment on the potential for development of "author pays" open access (APOA)

research publication in the UK. (Full text accessible via CILIP member resources).

Greyson, Devon; Morgan, Steven; Hanley, Gillian; Wahyuni, Desy. (2009). Open access archiving and article citations within health services and policy research. *Journal of the Canadian Health Libraries Association*, **30**(2), 51-58.
Study showing that open access archived articles were more likely to be cited at least once, and once cited, were cited up to 29% more than non-open access articles. (Full text freely available via journal home page http://pubservices.nrc-cnrc.ca/rp-ps/journalDetail.jsp?jcode=jchla&lang=eng).

Podcasts

Found via CILIP Podcasts (includes content from other providers) http://communities.cilip.org.uk/blogs/podcasts/default.aspx on CILIP Communities http://communities.cilip.org.uk/.

See 16 February 2009 LISTen: An LISNews.org Podcast -- Episode #60. Dr Stevan Harnad talks about Open Access in the US.

Conferences

Open Access is the theme of IFLA's 2010 conference – see www.ifla.org/en/annual-conference

See also the Events section of the Open Access Directory http://oad.simmons.edu/oadwiki/Events

Interviews via VoIP: Benefits and Disadvantages within a PhD study of SMEs

Naomi V. Hay-Gibson

Abstract

The benefits and disadvantages of Voice over Internet Protocol (VoIP) are explored as part of a PhD study to conduct qualitative interviews to discuss risk management within records management. This was used in conjunction with an internet-based electronic whiteboard system to provide online collaboration between participant and researcher.

This work describes remote interviews that were held separately with two participants from one small to medium enterprise (SME). An analysis of factors that might affect researcher choice of interview format is given, and the differences noted between other formats of 'remote' interview. Suggestions are made as to how other forms of e-communication may be used for interviews.

1 Introduction

This article examines the use of VoIP to conduct interviews by giving a descriptive account of the researcher's experience in conducting two VoIP interviews. The addition and use of an electronic whiteboard as an aid to remote interviewing is described. The subject of remote interviewing is explored more thoroughly with reference to current literature, including relevant studies using telephone interviews, videoconferencing, email and Instant Messaging. From this, parallels are drawn between other methods of remote interviewing. Some drivers for VoIP use are noted, and a review of the aspects of VoIP use is followed by some practical points to consider whilst using this medium.

The use of VoIP to conduct interviews is a relatively recent phenomenon in qualitative research. Though other technologies have been used to arrange 'remote' (Stevens, 2008) or 'distributed' meetings (Yankelovitch *et al*., 2004, 419), there have always been technological concerns as to the feasibility, cost and

Naomi Hay-Gibson

Naomi Hay-Gibson is a PhD student within the School of Computing, Engineering and Information Sciences at Northumbria University, researching risk management of e-records management, and funded by AHRC.

Email: naomi.hay-gibson@northumbria.ac.uk

Received 27 June 2009

Accepted 29 July 2009

value of the interview from both the perspective of the researcher and that of the participant. There appears to be a "gold standard of face-to-face interviewing" (McCoyde and Kerson, 2006, 390) with the view that other methods are a compromise, rather than valid techniques in themselves. It is hoped that the evaluation of some alternatives to the 'gold standard', each with their own attractions, will prove of use to researchers who need to access specific participant groups remotely.

This paper examines the benefits and disadvantages found when the method of interviewing two participants over VoIP was used to compensate for difficulties in arranging face-to-face meetings with participants in a rural SME.

The company participating was an SME in the north-east of England. It had offered to participate in a PhD study examining risk management in e-records management. This involved holding a batch of interviews with selected members of staff and managers, recording the interviews in order to transcribe them and then using the transcript to form the basis of a corpus for analysis. This corpus was formed from a collection of interview transcripts. Thematic coding of this corpus and generation of rich pictures was used to triangulate evidence to form a greater holistic understanding of the SME's attitudes and drivers towards risk management in electronic records management.

The use of VoIP interviews was prompted by a difficulty in reaching the site and in contacting individual employees. The SME was housed in an industrial estate unit outside a town not accessible via rail. One of the employees participating was a teleworker who worked on-site only once a week. As the SME was used to using a VoIP application as a medium for communication between its workers, there was a very positive response from the business owner to using this method for interviews. It was also felt by the researcher that using VoIP would be less intrusive to the SME than a physical visit.

2 PhD study interviews – an account of two experiences

Interviews were held with two participants from the company. Interviews had been held with these participants beforehand. Both had been contacted by the manager of the company and the researcher to ascertain if they would be available to interview through a VoIP application called Skype (2009). The participants required access to illustrations rendered for the interview, and so an interactive whiteboard was chosen to work alongside the VoIP application.

Participant 1 was a teleworker in the company and opted to hold the interview on a day convenient for her when she was not in the office, but at home. The call was made using VoIP audio, rather than a video call. Skype's Instant Messaging (IM) feature was used to send over the link to the digital whiteboard. The participant was quite relaxed, and seemed more open to answering questions posed to her than in a previous interview session held in person, within the company.

Two-thirds of the way into the interview, the WiFi connection to the researcher's laptop lost connectivity and the Skype call was dropped. After a brief time was taken to re-establish the connection, the researcher connected via VoIP again to the participant, explained what had happened, and resumed the interview with

minimal trouble. The interview lasted roughly 70 minutes, yielding an hour of relevant material from the interview to the PhD study.

Participant 2 was a manager who worked full-time at the site. He was able to have his interview at the office, and confirmed his availability via email. This call was made via Skype VoIP audio, and again the IM feature was used to transmit a link to the electronic whiteboard program used successfully in Participant 1's interview. His interview lasted roughly 150 minutes, and was interrupted at roughly 55 minutes into the call, by an antivirus program update. The researcher called the participant back using VoIP, and resumed the interview. This longer than usual interview (two hours rather than one) gave a huge opportunity for material-gathering, and included a protracted use of the whiteboard, with the participant designing and creating a top-level diagram of his own design upon it. The participant's engagement with the interview was impressive, as the usual time for interviews with this company varied between 30 – 70 minutes. This long interaction with the remote interview can be mainly explained by the fact that the participant took great pains to illustrate a diagram for the researcher using the electronic whiteboard, which gave the participant a chance to reflect on his own ideas and to demonstrate them to the researcher.

3 Recording the VoIP interview

The recording set-up for the call was an Olympus WS 21OS digital recorder attached to an external microphone, and rested near the speakers of the computer. As there had been no collection of visual data beforehand in the study, there were no requirements to record video footage that may have been available via Skype.

However, copies of the digital whiteboard were taken in the form of screen captures after significant changes and each complete element added by the participant, such as a whole text box or shape. This was recorded in a Microsoft Word document. This helped to preserve a record of the digital whiteboard session held with participants 1 and 2, and showed the participant and researcher interaction clearly. Whilst the researcher could place markings on the whiteboard to indicate specific parts of the diagrams put up onto it, the participants were also able to mark up the diagram and contribute with text and image.

Evaluating other possibilities, the audio-recording program 'Audacity' (Mazzoni, 2008) could also have been used to record sound directly into the computer being used to host the VoIP session, but the researcher preferred to use an external digital recorder, as Audacity files can be quite large, before conversion to .MP3 or .WMA format, and may prove taxing to a slower computer which also runs other processes at the same time. However, when using a computer where file storage space is not an issue, Audacity could be used to record directly to the computer.

4 Use of interactive whiteboard technology in supplementing interviews

Twiddla (2008), an online interactive whiteboard facility, was used to allow collaboration between the participant and the researcher. Twiddla was chosen for its ease of use, simple interface for tools, and its web-based availability. Twiddla was also chosen for the fact that there is no requirement to download software to enter into a shared whiteboard environment. This may be a specific problem to

those who are being interviewed within work environments or who are on a network without administrator rights.

Images can be imported onto the online space, and seen by participants who are sent the URL. Uploaded images could be seen by both the researcher and the participant, could be annotated with text and drawn upon by both researcher and participant in two different colours.

An example of an image as seen in Twiddla is shown in Figure 1.

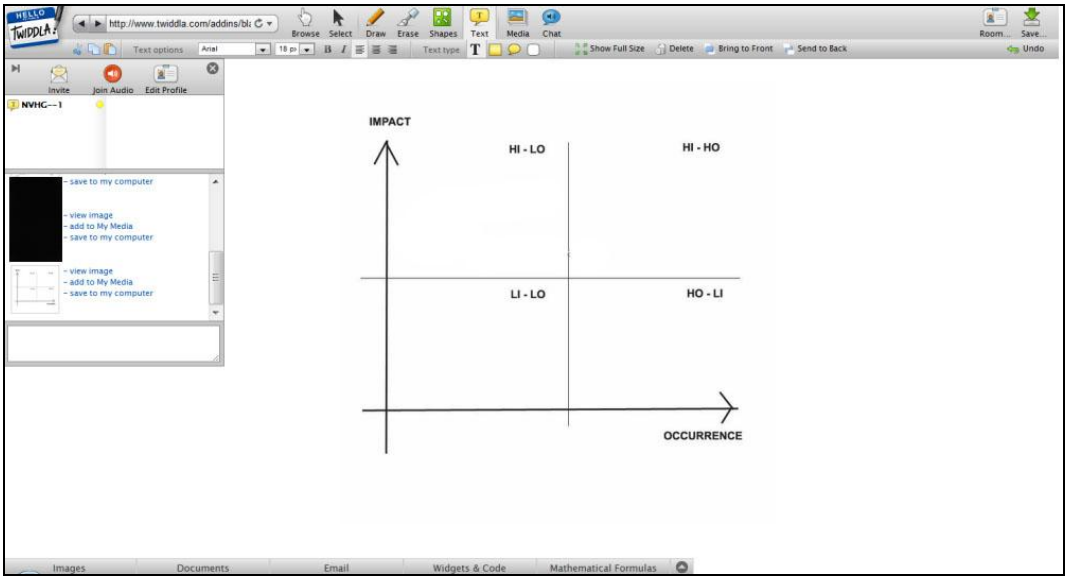


Figure 1: Twiddla: example of use.

Another aspect of the use of the interactive whiteboard is that the participants using it within these sessions seemed to be more eager to annotate information, and describe through diagrams their perceptions of information and records management structure. Though there is not enough evidence to be conclusive about this aspect, the willingness to participate indicated that the online whiteboard's novelty may increase participant annotation of diagrams. In terms of the use of this data, compliance with Northumbria University's regulations was in force (Northumbria University, 2008).

5 Interview methods

There has been much technological progress in terms of the possibilities for carrying out a 'remote' interview. VoIP is a recent addition to the tools that researchers and educators can use in order to interview or broadcast over distances without a physical presence, as used successfully by Lotter (2009) and Miltenoff, Flanders *et al*. (2008).

Using a VoIP program, researchers can make a direct PC-to-PC call, or call out to a landline anywhere in the world. Charges and costings for VoIP programs may vary, but the general options place an emphasis on free PC-to-PC calls, with telephony to a landline for a small charge (Branzburg, 2007; Lotter, 2009).

Table 1 describes both advantages and disadvantages for each of the methods.

Technology	Advantages	Disadvantages
VoIP	*Costs* – Free using PC-to-PC calls, calls to landlines may be made at a small cost *Human element* – Participants and viewer able to see each other and read face and body language in video calls *Recordable* – Audio recordings can be made of the interview session	*Technology requirements* – Internet access needed by the calling party (VoIP to landline) and for both parties when calling PC-to-PC. VoIP-enabled program must be installed at both ends for PC calls, as well as microphones and cameras for respective audio and video inputs *Human element* –Participants may feel embarrassed or nervous to be on camera
Videoconferencing	*Human element* – Participants and viewer able to see each other and read face and body language *Recordable* – Audio recordings can be made of the interview session	*Technology requirements* – Videoconferencing equipment needed by both parties *Costs* – Purchase and maintenance of videoconferencing equipment *Human element* –Participants may feel embarrassed or nervous to be on camera
Telephone Interview	*Costs* – Cost of call lower than cost of travel to participant location *Recordable* – Audio recordings can be made of the interview session	*Human element* –Participants and researchers may feel awkward in dealing without body language or nonverbal cues in interview *Technology requirements* – Telephone access needed for both parties. Reference materials need to be shared physically with the participant beforehand rather than in session

Table 1: Table of advantages and disadvantages in three forms of remote interview technology methods – VoIP, videoconferencing and telephone interviews.

Other tools have included telephone interview (Siemiatycki, 1979; Sturges and Hanrahan, 2004; Worth and Tierney, 1993) videoconferencing (Straus, Miles and Levesque, 2001; Webster, 1998), and email interviews (Bampton and Cowton, 2002; McCoyde and Kerson, 2006). Described here, in regards to the literature, are their benefits and disadvantages for remote interviewing.

Videoconferencing, a technology that became popular in the early to mid-1990s, is very dependent on the use of specific hardware with both the researcher and the participant/s. Sellen noted that "the explicit goal of videoconferencing is often stated as one of simulating face-to-face meetings" (Sellen, 1995, 403). Webster's (1998) identification of a psychological impact of human interaction in terms of the uptake of videoconferencing is relevant to any communication technology using video; though the technology may have changed, the behaviour and attitudes of video call users is still an important consideration (Stevens, 2008; Straus *et al.*, 2001) for any researcher. Reluctance to participate with video may be because of a concern about personal privacy (Webster, 1998, 272) or shyness.

Telephone interviews have had the longer history in terms of remote interviewing. Worth and Tierney (1993, 1077) note that "Previous studies concerned with methodological issues in public survey research have attempted to assess whether telephone interviews yield data of comparable quality to other methods, with inconclusive results". Sturges and Hanrahan (2004, 108) have indicated that this method has also not been popular for qualitative research: "The use of telephone interviews in qualitative research is uncommon, due largely to concern about whether telephone interviews are well suited to the task." However, in regards to this perception, they found that the mode of interview did not 'influence the data to any significant degree' (Sturges and Hanrahan, 2004, 113). Siemiatycki (1979) also found that in comparison with a mailed survey's returns of 76 – 83%, the telephone interview achieved a high (87%) response rate.

6 Parallels with videoconferencing

The use of the VoIP form of interviewing has certain specific parallels with videoconferencing, but also marked differences in the terms of the success and widespread rollout of both equipment and software. Webster (1998) has noted that the initial poor take-up of videoconferencing in one case study business setting was due to a complex mix of factors which involved the use of the videoconferencing technology as a form of 'check' on whether the employee was present at his or her desk. The employees did not appreciate this, and so the videophones went unused. Other factors involved a wish for human interaction other than via videophone.

It is evident, then, that the key aspects of the use of videoconferencing technology involve a psychological angle between the user groups. This is key to note when considering the potential value of the video call aspects of Skype's VoIP service.

Amongst the key factors that Webster notes of the use of such technology are user needs, training and documentation, system reliability, and ease of connection (Webster 1998, 258–265). It is clear that users had to be supported in business use of videoconferencing, and this should be noted in the use of video calls via VoIP.

7 Parallels with telephone interviews

The telephone interview is the most used of the techniques of remote interviewing. Siemiatycki (1979) noted that the overall high cost of research was an important limiting factor. Based on the comparisons of a mail and telephone survey in comparison with the 'conventional' form of interview, his work can be seen as a clear example of a researcher trying to use current technology to expand research techniques. Despite noting earlier in their work the general negative academic responses to the telephone interview as a method, Sturges and Hanrahan (2004) used this format as a contingency method and found that it worked positively in response to difficulties in reaching a target participant group of prison visitors and correctional officers (Sturges and Hanrahan 2004, 111).

Worth and Tierney (1993) note the saving of time and travel expenses when using telephone interviews as an alternative to face-to-face interviewing. However, their harrowing description of the difficulties faced by elderly participants of a research survey designed to ask about post-surgical experience is vital for the comprehension of the context of suitable use of technology for both participants and the research situation. Regardless of the possible simple parallels between an audio call using VoIP technology and a telephone call, there is a strategic problem regarding VoIP that also applies to the telephone interview. Technology has changed, and whilst the factors of technological availability may have improved, the challenges of technological literacy are still extant.

8 Parallels with email

As an email is an asynchronous form of communication, it cannot lend itself to the emotional interpretations of a 'live' interview. It is a medium in which the first question may determine the destination of all the others. However, McCoyde and Kerson (2006), in their study of women who experienced terminations performed after diagnosis of foetal anomaly, have found it an invaluable technique for accessing 'stigmatised and isolated populations whose voices are stifled'. The asynchronicity can also be a benefit: Bampton and Cowton (2002) found that "…one of the major benefits of the e-interview, in that busy subjects—and busy researchers, for that matter—do not have to identify a mutually convenient time to talk to each other. Nor do they each need to find a single chunk of time in which to complete the full interview, since as an interview—rather than something more akin to an e-mailed questionnaire—there should normally be more than one episode of question and answer."

This format may also be used creatively to bridge the gap between the interviewer and participant in terms of language and geography. Other uses could be in the confirmability of qualitative evidence, such as allowing a participant to read through a previous interview transcript, and taking an opportunity to ask about specific incidents within it.

9 Other computer-based interview methods

Instant Messaging is one of the truly 'instantaneous' technologies that can provide a platform for interview. It is possible to type a question and get a real-time answer, and some services allow the use of multiple services in one session: e.g.

combining an audio call with typed responses, or a video call with audio, similar to Skype. Flynn (Flynn, 2004; Flynn and Kahn, 2003) has noted that IM can be misused in businesses as a technology, and therefore use of it must be carefully managed. As IM is not a truly accepted medium of contact for interviews, there is a paucity of studies in which it has been used in terms of general data collection (Stieger and Göritz, 2006, 552). In terms of using IM as an interviewing method, it must be considered that it again falls short of the 'gold standard' and does not have the research historicity of telephony or videoconferencing, but it may provide access to a participant group that might otherwise not be reached.

10 Drivers for the use of VoIP as a medium

The drivers for using VoIP as a medium to connect with the business for the PhD study were:

- Expense – calls made PC-to-PC were free
- Time – the time taken to set up the VoIP interview was considerably less than the travel time usually taken to reach the SME's location
- Availability – participants felt in control of when they wanted to schedule the interviews, and it was usually on shorter notice than physical availability e.g. the flexibility of being able to call a teleworker either at home or at the business, using the same contact details
- Practicality – the Skype VoIP system was already available within the company, required no training on the part of the researcher or participant, and provided a good quality audio for recording and later transcription
- Acceptability – participants were conversant with VoIP technology and the Skype system was a conventional program in frequent daily use within the SME, as it had been instituted by managers

11 Aspects of the use of VoIP for remote interviews

The method of VoIP for remote interviews is one that has great potential to become an alternative to the 'gold standard' of face-to-face interviews. However, new skills must be learnt: presentation on-camera, a skill already needed in videoconferencing, must be combined with interview techniques to improve interviewer rapport with the participant for the chance to collect more granular data. VoIP interviews can be supplemented with other technologies, such as the use of an interactive whiteboard, in order to counter the difficulties found when trying to get a participant to focus on supplementary material such as illustrations, graphs or charts. Technical skills are also needed; VoIP programs must be installed, upgraded as needed, and technical delays resolved quickly if an interview is interrupted or delayed.

There are method-specific difficulties and disadvantages. One of the main problems is the need to have specific software. Though the ease of downloading programs can be great, it can also tax networks where there needs to be permission from a network or systems administrator in order to have access to certain programs. Updates and upgrades can cause the same problem. It may be

advisable in practical examples, to (a) make sure all equipment is ready before the planned session, and (b) ensure that the format of the session is firmly understood beforehand - an unexpected video call may be harassing for the participant, or seen to be an unwanted intrusion. There may be no clause in the research agreement for video capture, or a moratorium on filming in the workplace. In such cases, it is necessary to review the researcher and participant agreement on use of their data in the study before such material is collected. In terms of recording a VoIP video call, if all that is being used from the interview is audio material, there should be no need to record the video element of the call. If there is no use for such data, it may become a liability rather than a source of evidence, due to the research ethics of collection and storage of personal data.

The security within a VoIP call is perhaps as open to interception as email. For very sensitive subjects, it may be less risky to use a face-to-face interview.

12 Practical hints for maintaining a VoIP interview

Before arranging VoIP interviews, it may be helpful to check some of the points below to maximise the value of a VoIP interview. There are many similarities to a videoconferencing or telephone interview, but some aspects are more pertinent than others when undertaking either a first VoIP call or interview.

- Be aware that the other party will need to have access to the same services and programs – Skype will not interact with another VoIP client, such as Yahoo Messenger, for instance, even though both have the same facilities.
- Arrangements beforehand to verify what form of interview is required (e.g. intention to make a voice call, versus a video call) allow you to choose which form of recording set-up is best for the material you will be collecting.
- An agreement of who will call whom is useful as an email reminder in confirming arrangements. If it is available, an Instant Message reminder through the VoIP service just beforehand can also be useful to a remote worker.
- Allow a certain amount of time for participants to respond to questions, whilst at the same time watching for a ‘call dropout’ (disconnection), which can happen with VoIP calls. Causes of call dropout can be as simple as a poor Internet connection with either party, but it may mean that there is moderate to significant difficulty in maintaining the call, or there may be interruptions of static on the line that can obscure parts of a recording. Explaining to the participant what has happened can minimise the interruption to their train of thought.
- If the participant/s are not used to holding a conversation over VoIP services, the process may be more difficult. VoIP is not the best choice for use with participants who show an aversion to technology, and may not be easy to use with those who are visually or hearing impaired. For elderly or infirm participants who are unfamiliar with ICT, the process may be more stressful than a telephone interview. Be sensitive to their needs and inclinations.

- Identify which assistive technologies might make a difference to the use of VoIP. In the researcher's case study, an interactive whiteboard was used, but the principle of using interactive media alongside VoIP could be extended to references to other online material, photographs, group wikis, film clips or other media.

Another point that has been noted has emerged from experience in using Skype: headphones may give a better experience within a VoIP call. This method was not used within the two SME VoIP interviews, as the digital recorder was being used with the computer's external speakers. Headphones may be more useful with a computer-based recording. Personal preference means that the way that participants and researchers choose to interact with the VoIP software will change the form of recording methods used for the interview.

13 Conclusion

The use of VoIP as a method for remote interviewing is one with great potential in qualitative research, and may be used in preference to current technologies to gain access to participant groups. In examining VoIP as an interview method, the researcher experience has been described fully in terms of the conducting of two VoIP interviews in order to relate specific experiences, both positive – such as the longer time spent in interview with participant 2, and negative, such as the call disconnections part-way through interview. The addition of an electronic whiteboard in connection with the interviews handled the need to show participants material in-session, and allowed them to interact with the materials. This interaction may have contributed to a longer interview period.

Whilst there can be comparison with a 'gold standard' of face-to-face interviewing, VoIP has shown that this alternative method can achieve results with participant groups, building on skill-sets for remote interviewing, interpreted with new technology.

References

Bampton, R. and Cowton, C. J. (2002) The E-interview [online]. *Forum: Qualitative Social Research*, **3**(2) Art.9. URL: http://www.qualitative-research.net/index.php/fqs/article/viewArticle/848/1842 [accessed 02.06.09].

Branzburg, J. (2007) Talk is cheap: Skype can make VoIP a very real communication option for your school. *Technology and Learning*, **27**(8), 36-38.

Flynn, N. (2004) 'How to implement strategic email management: the 37 rules'. *Records Management Bulletin*, **118** (February), 17-24.

Flynn, N., and Kahn, R. (2003) *E-Mail rules: a business guide to managing policies, security, and legal issues for E-mail and digital communication*. USA: AMACOM.

Lotter, D. (2009) The internet-telephone interview as a classroom teaching tool. *Journal of College Science Teaching*, Jan - Feb, 52-53.

Mazzoni, D. (2008) Audacity: http://sourceforge.net/projects/audacity/.

McCoyde, J. L. M. and Kerson, T. S. (2006) Conducting intensive interviews using email: a serendipitous comparative opportunity. *Qualitative Social Work*, **5**(3), 389–406.

Miltenoff, P., Flanders, J. and Hill, J. (2008) Podcasting for school media specialists: a case study from central Minnesota. Paper presented at the *13th Annual Technology, Colleges and Community Online Conference*, 15-17 April, 2008. URL: http://etec.hawaii.edu/proceedings/2008/Miltenoff2008.pdf [accessed 01.06.09].

Northumbria University. (2008) *Northumbria University research ethics and governance handbook 2007-2008* [online]. URL: http://www.northumbria.ac.uk/static/5007/research_handbook.pdf [accessed 18.06.09].

Sellen, A. J. (1995) Remote conversations: the effects of mediating talk with technology. *Human-Computer Interaction*, **10**, 401-444.

Siemiatycki, J. (1979) A comparison of mail, telephone, and home interview strategies for household health surveys. *American Journal of Public Health*, **69**(3), 238 - 245.

Skype Ltd. (2009) *Skype official website - download Skype free now for free calls and internet calls*. URL: http://www.skype.com/intl/en-gb/ [accessed 02.06.09].

Stevens, A. (2008) Remote Interviews: Not so difficult if you know how. *Accountancy Ireland*, **40**(6), 88 - 89.

Stieger, S. and Göritz, A. S. (2006) Using instant messaging for internet-based interviews. *Cyberpsychology and Behaviour*, **9**(5), 552-229.

Straus, S. G., Miles, J. A. and Levesque, L. L. (2001) The effects of videoconference, telephone, and face-to-face media on interviewer and applicant judgements in employment interviews. *Journal of Management*, **27**, 363-381.

Sturges, J. E. and Hanrahan, K. J. (2004) Comparing telephone and face-to-face qualitative interviewing: a research note. *Qualitative Research*, **4**(1), 107-118.

Twiddla. (2008) Team whiteboarding with twiddla - painless team collaboration for the web. URL: http://www.twiddla.com/ [accessed 02.06.09].

Webster, J. (1998) Desktop videoconferencing: experiences of complete users, wary users, and non-users. *MIS Quarterly*, **22**(3), 257-286.

Worth, A. and Tierney, A. J. (1993) Conducting research interviews with elderly people by telephone. *Journal of Advanced Nursing*, **18**, 1077-1084.

Yankelovitch, N., Walker, W., Roberts, P., Wessler, M., Kaplan, J. and Provino, J. (2004) Meeting central: making distributed meetings more effective. *Proceedings, Computer Supported Cooperative Work (CSCW 2004)* **6**(3), 419-428.

Acknowledgement

With grateful thanks to Professor Julie McLeod of Northumbria University for her advice, help and commenting in reviewing drafts of this paper; and to the AHRC for their support and studentship funding throughout this PhD project.

Modelling-through-reaction: its nature, implementation and potential

Andrew K. Shenton

Abstract

Rooted in modern, person-oriented perspectives within user studies, modelling-through-reaction is an investigative technique that has been developed by the author over several years with the aim of uniting the often disparate worlds of research and the information professional. The approach results in the creation of principles that represent what the participants believe to be the ideal features of the information entity forming the subject of the research. In sum, these statements constitute a specification that should inform future development of the entity and provide criteria for evaluation. Drawing on a range of sources, this paper explores the early development of modelling-through-reaction and discusses its key characteristics, giving particular emphasis to its flexibility and suitability for use by the information professional, whilst still acknowledging the challenges inherent in its application.

1 Introduction

Modelling-through-reaction is a research approach that owes its origins to the user studies agenda which has been prevalent in library and information science for many years. In an influential and much-cited paper, Dervin and Nilan (1986) were among the first commentators to detect a paradigm shift away from a systems-oriented approach focusing on external behaviour for exploring information needs and uses towards one based on the internal cognitions of individuals. Writing at the beginning of the twenty-first century, Todd (2003) has gone so far as to suggest that this trend and others identified by the authors in their paper have "guided research and scholarly activity for the last 15 years" (p. 28). Shenton's modelling-through-reaction approach can be considered a product of this more person-centred perspective, incorporating the use of qualitative methods to explore the attitudes and behaviour of users in their own language and in relation to their own concerns.

Andrew Shenton

Andrew Shenton is a former Lecturer in the Division of Information and Communication Studies at Northumbria University.

E-mail: ashenton1@hotmail.com

Received 16 July 2009

Accepted 29 July 2009

Part of the inspiration for modelling-through-reaction came from the need to bridge the gap between research and information practitioners. Undoubtedly, much of the published research in LIS holds little appeal for information professionals. As Eve and Schenk (2007) appreciate, very often for these people, research may seem irrelevant to their real areas of interest, and the contents of academic journals look "dry and impenetrable" to them (p. 22). This is despite the fact noted by MacDonald (2007) that, with the backgrounds of many librarians lying in the humanities rather than mathematics or the "hard" sciences, they may well feel more comfortable with qualitative work, and the shift in this direction, at least insofar as user studies is concerned, should favour them. In recent years, much of Shenton's work has concentrated on uniting the domains of research and practice. With Jackson, he has explored the interaction between the study of information behaviour and the teaching of information literacy by information professionals (Shenton and Jackson, 2007), alerted practitioners to the journals in which research on information behaviour is frequently found so that they may stay up-to-date with the latest work (Shenton, in press c) and encouraged researchers to publish their projects in professional periodicals, as well as scholarly journals (Shenton, in press b).

The modelling-through-reaction approach seeks to reduce further the gap between researchers and practitioners by offering an investigative method that is easy to implement and which focuses on matters of genuine interest to information workers and the users they serve. In a passionate recent article, Clarke (2009) asserts, "If we as librarians want to heighten our profile we need to bond with our users and provide the type of service they need and demand". Although Clarke's piece was written several years after work began on the modelling-through-reaction method and her comments are made specifically in relation to her own experience as an information professional, rather than a particular research agenda, her attitude encapsulates in the most fundamental terms the rationale for the development of the modelling-through-reaction approach.

2 Early development

Essentially, modelling-through-reaction explores the views of both users and non-users of an information entity, such as an organisation, service, resource or product, so as to model what, in their eyes, would form its ideal characteristics. The technique has evolved in stages over the course of the last three years. An embryonic form was pioneered for a project designed to reveal the attitudes of pupils to their library in a high school in northern England (Shenton, 2008a). The brand of modelling-through-reaction employed in that study, however, was devoted exclusively to the negative responses of the participants – it concentrated entirely on how they thought the existing library could be improved. Ultimately, the researcher was able to formulate from the data collected six key principles that should be considered by managers for the development of the library and which may be adopted as criteria for the evaluation of that library in the future. On the basis of the ideas of pupil participants, the ideal school library was regarded as one:

a) that offers abundant, useful and stimulating stock;

b) where the organisation of books is helpful and intuitive to use;

c) in which books can be borrowed at any time of the day;

d) whose ambience is welcoming and appropriate for youngsters wanting to use the area for different reasons;

e) where staff can empathise with young people;

f) that is accommodated in a dedicated space.

The idea of pupil feedback providing an input into the process of assessing a school library is by no means novel, of course. Indeed, Barrett and Douglas (2004) note in general terms the role of evidence from users and non-users in "evaluating the extent to which the library impacts upon the school" (p. 72) but the notion of using youngsters' ideas to formulate specific criteria that reflect their own priorities is rather more unusual.

Whilst the approach employed in the project elicited data that proved more than adequate for the satisfying of the study aims and objectives, the use of "negative data" in the way that was applied would not meet with universal approval. In this respect, the pertinent arguments of Donald Urquhart, the renowned innovator in document delivery services and who may be considered to take a dissenting line, should at least be acknowledged. In an influential treatise on the nature of librarianship, Urquhart (1981) is sceptical of research addressing what "users think they want, or what they think they would do in some hypothetical situation" and dismisses data relating to these areas as "not objective" (p. 17). Nevertheless, it must be recognised that Urquhart's stance is symptomatic of the era in which it was taken, before the widespread acceptance of qualitative methods. Urquhart is keen that researching librarians adhere to the stipulations of scientific method in a quest for objectivity but modelling-through-reaction and indeed much of today's wider user studies agenda are less concerned with objectivity than with gaining an appreciation of the subjective worlds of information users. Thus, to assess in terms of objectivity a project that emphasises internal cognitions is to apply an inappropriate criterion for its evaluation.

A second project employing the modelling-through-reaction approach with young people broadened the line of questioning, here in relation to the Teletext information service. As well as asking, "If you don't use Teletext, why is this?", the researcher incorporated a "positive" element, probing the reasons why pupils who used Teletext did so, and what benefits they felt the resource offered. The inspiration behind this strand came from work on "willingness to return" by Turner and Durrance (2005), who have suggested that the success, from the client's perspective, of the reference interview in a library can be measured by ascertaining the willingness of the individual to return to the same member of staff on a future occasion. Extending this theme, Shenton (2008b) has recommended that, by employing focus groups or individual interviews, the researcher can uncover what it is about the library that makes youngsters go back to it with a view to gaining insight into "the difference that the library makes to their quality of life". The underlying principle was then transferred to Teletext

use. In a previous article dealing with modelling-through-reaction, Shenton (in press a) explains how, in such situations, the aim of the double-pronged strategy is to prepare principles emphasising the desirable characteristics of the resource and converting perceived weaknesses into positive statements in order to produce an overall specification embodying the requirements of users.

The "Teletext" study was intended as the first stage within an ambitious project that would also explore pupil attitudes to the Internet, CD-ROM and the school's intranet, and use the cumulated data to model the ideal electronic information resource. The first phase was much less successful than anticipated, however, and the failure revealed a key shortcoming in the modelling-through-reaction method – the participants must have at least some knowledge of the entity in question so that an informed opinion can be expressed. The project fell short of expectations because very few of those sampled knew sufficient about Teletext. In the light of the fact that an earlier study at the same school (Shenton, 2007c) had shown the use of Teletext to be minimal among the teenagers, this possibility should probably have been recognised from the outset. A major difference between the "willingness to return" approach put forward by Shenton (2008b) and the line taken in the "Teletext" investigation was that, in the latter, no attempt was made to recruit enthusiastic users. Still, the problem of unfamiliarity should not be assumed to imply that non-users cannot make a significant contribution to research based on the modelling-through-reaction approach. On the contrary, in the previous work on attitudes to the school library, useful data were elicited from some twenty-two pupils who indicated that they "never" used the facility. Rather than being ignorant of the library, these youngsters were well aware of it and were very clear in their justifications for ignoring the facility. Although they may have lacked an understanding of its more detailed characteristics, their lively opinions on how the library could be made more attractive to them could form a helpful input into the design of an improved service. More broadly, drawing on the ideas of users and non-users in concert can provide a richness in the data collected within a project that would be absent if only the former were sampled. The main challenge may well lie in finding the most effective method of recruiting as participants non-users, who may be tempted to dismiss research concentrating on something that they do not exploit as "nothing to do with me". The problem of involving non-users has for many years perplexed researchers undertaking projects into the use of libraries. One of the most imaginative solutions was reported by Murray (1985) in the mid 1980s. Acknowledging the need to approach youngsters beyond, as well as within, the library, she recounts how the questionnaire prepared was distributed in environments as diverse as three shopping malls, a pinball arcade and a community swimming pool.

3 The versatility of modelling-through-reaction

A significant strength of the modelling-through-reaction approach lies in its flexibility in terms of both the entities that may be scrutinised and the nature of the participants from whom data may be collected. Shenton (in press a) has, in the past, noted its particular suitability with regard to young people, as it allows them to discuss their attitudes to a concrete matter. The task of devising the abstract principles that form the research outcomes falls entirely on the shoulders of the

researcher. The language in which the questions are framed can easily be made suitable to the age of the child. When working with young children, for example, the foci may be as straightforward as why those who do use the school library go to it, what they like about it and what they would want to be different about the library, whilst non-users may be asked why they ignore it and what would attract them if changes were made. There is no reason, of course, why modelling-through-reaction should be limited to the LIS field. It could, for example, be extended to address learning programmes and courses in Further and Higher Education.

Although early studies using the modelling-through-reaction approach have been of the one-off variety, sampling youngsters in a given school at a certain time, if the researcher is attempting to develop principles for an ideal school library that have a measure of constancy over time, it may be appropriate to take a longitudinal perspective, repeating the study after, say, a five-year period has elapsed, when all the pupils taking part in the original project will have moved on and general principles for an attractive library in the eyes of users can be constructed from the totality of the data in both studies. In defining his "principles of librarianship", Urquhart (1981), however, attaches great importance to their immutability. He writes, "they should not be changed by the passage of time or technological developments" (p. 10). Anyone subscribing to this argument may expect that if principles were to be evolved from two different studies separated by several years, there would be few differences between them and thus there is very little need for a longitudinal element.

Even where the focus of the research is, for example, the ideal public library, it is possible that the particular organisation under scrutiny may vary from one participant to another. A study may initially concentrate, for example, on a named public library but, in a secondary phase, the insights that have already emerged may be explored with reference to users and non-users of other libraries in the area. Such research may seem to run the risk of failing to give sufficient attention to the various contextual factors that may affect users of different libraries but confirmatory work of this kind is not uncommon in LIS. Friel (1995), for instance, has explored the suitability of Kuhlthau's Information Search Process model specifically in relation to low-achieving students, and Kuhlthau herself has investigated the appropriateness of her original model to different groups of library user (Kuhlthau *et al*, 1990). Similarly, Ellis developed his first model of information-seeking with social scientists (Ellis, 1989), and then compared the patterns he had identified with those pertaining to research physicists and chemists (Ellis, Cox and Hall, 1993) and, later, industrial scientists (Ellis and Haugan, 1997). More recently, after delineating the various ways in which the word, "information", was understood by school pupils in north-east England (Shenton, 2002), Shenton has undertaken collaborative work with Nesset and Hayter to ascertain the relevance of his original set of constructs to Canadian elementary school pupils (Shenton, Nesset and Hayter, 2008).

The application of a modelling-through-reaction strategy can lead to a range of insights into the information needs/wants that participants either actually meet or would like to satisfy using the entity in question. Illumination of the second kind may lead to an understanding of what commentators such as Faibisoff and Ely

(1976, p. 3), Cronin (1981, p. 40) and Nicholas (2000, p. 23) term "unexpressed" needs – needs of which the individual may be aware but has not acted upon. There is a clear overlap between modelling-through-reaction and the well established help chain strategy for researching information needs. Shenton (2009) reports how, in the latter, the way in which a particular library or resource centre, for example, has assisted the user in fulfilling a certain information need is investigated, with attention initially directed to the individual's interaction with the organisation, rather than on the need itself. In view of the great divisions of opinion with the LIS community surrounding the differences in nature between information needs and information wants, it would be unwise of the researcher to call on participants to make any such distinctions themselves. This means, however, that, in looking to make sense of the data at a later stage, the analyst may be faced with the challenging task of creating such separations unaided, although by no means all commentators feel it necessary even to make a distinction. In her own research, Gratch (1978) subsumes information wants within the construct of information needs, and Reuter's (2007) belief that such needs include "gratifications" (p. 139) would appear to blur the categories. An acclaimed work by Williams (1965) draws attention to another situation that highlights the problems inherent in the needs/wants separation. He recognises how, despite its apparent frivolity, the reading of what he terms "ephemeral writing" can meet an important need in times of "illness, tension, disturbing growth as in adolescence, and simple fatigue after work" (p. 193).

4 Caveats

Modelling-through-reaction is undoubtedly ill suited for the designing from scratch of entities that are radically new, since it takes as its starting point the perspectives of participants on something already in place. It is much better equipped for providing a means of redeveloping or re-orientating an existing entity.

It must be understood, too, that what is learnt from a modelling-through-reaction study should provide only one input into a future course of action pursued by senior managers. In an old but still pertinent article, Bradshaw (1972) investigates the concept of "normative need", which he describes as "what the expert or professional, administrator or social scientist defines as need in any given situation" (p. 640). The phenomenon of "dormant need" identified by Nicholas (2000) and also discussed, using different terms and with reference to a diversity of scenarios, by commentators such as Dervin (1976), Faibisoff and Ely (1976), Derr (1983), Cronin (1981), Green (1990), Nicholas (2000) and Shenton (2007b), can be considered a justification for responding to normative needs, since users themselves may not necessarily be aware of all their needs. It is instructive to note that Walter's oft-cited study of children's information needs (Walter, 1994) is based entirely on a normative perspective. Although the extent to which the manager of a library or information unit must strike a balance between catering for the needs/wants of participants and meeting the normative needs stipulated by an external expert may appear to be a key challenge, early work using the modelling-through-reaction approach suggests the correspondence of the two may be closer than one might expect. Each of the six principles formulated in the

school library project covered earlier may be understood, to either a greater or lesser degree, in terms of one or more of the four problematic areas for school libraries noted by Phil Jarrett, HMI subject Advisor for English (Jarrett, 2006). The appropriate relationships are shown in Table 1.

Pupil principles for the ideal school library	*Jarrett's problematic areas*
It offers abundant, useful and stimulating stock	Funding; resources
The organisation of books is helpful and intuitive to use	Resources [and their management]; staffing
Books can be borrowed at any time of the day	Staffing
The ambience is welcoming and appropriate for youngsters wanting to use the area for different reasons	Funding; accommodation; resources
Staff can empathise with young people	Staffing
It is accommodated in a dedicated space	Accommodation

Table 1: Associations between pupil principles resulting from modelling-through-reaction and Jarrett's problematic areas

When the pupils' ideas in the school library study are compared with those of the young people who participated in research conducted by The Reading Agency (2004), clear areas of consensus can be recognised here too. In particular, those youngsters also spoke of the importance of a wide "choice of relevant reading material", opening hours that were convenient, a "welcoming atmosphere" and a "separate space" (p. 22).

The possibility of tensions emerging between the ideas of study participants and those of other interested parties is an obvious potential problem. The researcher might *expect* pupils to feel that computers in the school library should be available for games, private e-mailing and the pursuit of information in response to personal interests, whilst senior managers within the school may be more concerned with ensuring that the machines are employed for educational tasks and supporting the curriculum. Moreover, conflicting patterns may also arise within the data themselves if youngsters' perspectives are sufficiently at variance with one another. A significant contrast in the data elicited for the school library research project was that, whereas some participants believed that the library should offer a quiet place for study, others maintained it should be a more social environment, where they could meet with friends (Shenton, 2007a). Often, however, the task of uniting such seemingly irreconcilable viewpoints can be achieved by formulating an especially broad principle. It may, for example, stress that the library or computers within it should serve a wide variety of purposes.

Where what is desired by participants runs diametrically opposed to the policy of senior managers, it may be impossible to accommodate the former to a significant degree and, in these circumstances, any attempt that has been made to represent the modelling-through-reaction research as part of a genuinely consultative process may be perceived to be a sham. If the desires of users are simply "moderated", rather than rejected outright, the revised stipulations may form a particular kind of Taylor's (1968) "compromised" need (p. 182). In this context, Taylor explains how an individual's information need may be recast in accordance with the constraints that are in place. In the same way, the needs and wants of those participating in modelling-through-reaction research may well be "compromised" by senior managers in order that they may conform to existing policies, the aims and objectives of the organisation and the school's wider educational mission, as well as what is practical.

5 Modes of data collection and analysis

Early work featuring the modelling-through-reaction approach has involved the use of questionnaires, although much richer data can, of course, be collected via individual interviews and focus groups. Indeed, as the author has noted in a previous article (Shenton, 2006), qualitative researchers may be wary of using questionnaires since respondents merely react to "generic questions presented to all participants and there is no scope for the investigator to pursue, through more personally oriented follow-up prompts, the individual issues raised" (p. 2). Nevertheless, the use of a single, generic set of questions for all respondents in a particular study, even if different people have used different libraries or different reference books, is attractive in that it reduces preparatory work for the researcher and facilitates comparability of data but the questions must be phrased with care so that they are equally appropriate to everyone. Regardless of whether one-to-one interviews, focus groups or questionnaires are employed, the data collected should be categorised and coded on the basis of the inherent themes and the ultimate outcome will take the form of a set of general principles for the "ideal" as seen through the eyes of users. For inexperienced researchers, the categorising and coding process may form the most challenging aspect of the project.

6 Conclusions

Modelling-through-reaction is a highly flexible research approach that may be implemented in a design that involves focus groups, one-to-one interviews or questionnaires, with "positive" and "negative" data solicited from users and non-users. It is easy to apply whether the participants are young or old. The entities that may be subjected to scrutiny are similarly diverse. In an LIS context, they may include information organisations, services, resources and products. Modelling-through-reaction may also be applied to issues beyond our discipline. The principles that form the research outcomes may be used for both future development and evaluation.

Where modelling-through-reaction is employed in relation to a certain library and the study is undertaken by an information professional employed within the organisation, that person is well placed to understand the pupils' attitudes in terms of the particular characteristics of the organisation, its services and procedures,

and the nature of the users themselves. In short, the research is not being conducted in a "vacuum". This situation contrasts with work that may aim to identify the characteristics of the ideal reference book, since it may well be that the volumes which form the subject of participants' ideas are located in the users' homes and are never even seen by the information specialist, who is thus poorly placed to understand the participants' attitudes in-context.

For all its attractions, modelling-through-reaction raises a number of important challenges for the researcher, notably how normative perspectives, beyond the attitudes of the participants, will be accommodated within the overall policy making process and how contextual factors outside the realms of the practitioner-researcher's experience and which may affect the data collected can be recognised and acknowledged.

References

Barrett, L. and Douglas, J. (2004) *The CILIP guidelines for secondary school libraries*. London: Facet.

Bradshaw, J. (1972) The concept of social need, *New Society*, **496**, 640-643.

Clarke, C. (2009) Time to start shouting at school, *Library and Information Gazette*, **19 June – 2 July**, 4.

Cronin, B. (1981) Assessing user needs, *Aslib Proceedings*, **33**(2), 37-47.

Derr, R.L. (1983) A conceptual analysis of information need, *Information Processing and Management*, **19**(5), 273-278.

Dervin, B. (1976) The everyday information needs of the average citizen: A taxonomy for analysis. *In:* Kochen, M. and Donohue, J.C. (eds.) *Information for the community*. Chicago: American Library Association. 19-38.

Dervin, B. and Nilan, M. (1986) Information needs and uses, *Annual Review of Information Science and Technology*, **21**, 3-33.

Ellis, D. (1989) A behavioural approach to information retrieval system design, *Journal of Documentation*, **45**(3), 171-212.

Ellis, D. and Haugan, M. (1997) Modelling the information seeking patterns of engineers and research scientists in an industrial environment, *Journal of Documentation*, **53**(4), 384-403.

Ellis, D., Cox, D. and Hall, K. (1993) A comparison of the information seeking patterns of researchers in the physical and social sciences, *Journal of Documentation*, **49**(4), 356-369.

Eve J. and Schenk N. (2007) Informing and communicating research: Everyone's responsibility, *Library and Information Update*, **6**(6), 22-23.

Faibisoff, S.G. and Ely, D.P. (1976) Information and information needs, *Information Reports and Bibliographies*, **5**(5), 2-16.

Friel, L. de L. (1995) *The information research process with low-achieving freshmen using Kuhlthau's six-stage model and the interventions that facilitate the process*. PhD thesis, University of Massachusetts Lowell.

Gratch, B. (1978) *Final report of the Pioneer Library System, LSCA no. 78-19, Central Library young adult project*. New York: Rochester Public Library.

Green, A. (1990) What do we mean by user needs? *British Journal of Academic Librarianship*, **5**(2), 65-78.

Jarrett, P. (2006) What makes a good school library? *School Libraries in View* [online], **22**. URL: http://www.cilip.org.uk/NR/rdonlyres/14481A36-2A54-4A7F-A6B7-6433B8FDCAD1/0/sliv22b_new.pdf [accessed 11.07.09].

Kuhlthau, C. C., Turock, B. J. and George, M. W. (1990) Validating a model of the search process: A comparison of academic, public and school library users, *Library and Information Science Research*, **12**(1), 5-32.

MacDonald, B.H. (2007) When numbers alone are not enough: Applications of qualitative methodologies, *Feliciter*, **53**(1), 26-29.

Murray, B-K.W. (1985) Regina public library's survey of young adults. In: Gagnon, A. and Gagnon, A. (eds.) *Meeting the challenge: Library service to young adults*. Ottawa: Canadian Library Association. 55-65.

Nicholas, D. (2000) *Assessing information needs: Tools, techniques and concepts for the Internet age*. 2nd Ed. London: Aslib.

The Reading Agency (2004) *Fulfilling their potential: A national development programme for young people's library services*. URL: http://www.readingagency.org.uk/young/young%20people-upload/FPsummaryreport04.pdf [accessed 13.09.09].

Reuter, K. (2007) *Children selecting books in a library: Extending models of information behavior to a recreational setting*. Saarbrücken: VDM Verlag Dr. Muller.

Shenton, A.K. (2002) *The characteristics and development of young people's information universes*. PhD thesis, Northumbria University, Newcastle upon Tyne.

Shenton, A.K. (2006) Squaring the circle: Appreciating the individual in questionnaire-based research, *Information Research Watch International*, December, 2-3.

Shenton, A.K. (2007a) Attitudes to books and school libraries among teenagers in an English high school, *New Review of Children's Literature and Librarianship*, **13**(1), 31-57.

Shenton, A.K. (2007b) Viewing information needs through a Johari Window, *Reference Services Review*, **35**(3), 487-496.

Shenton, A.K. (2007c) The information-seeking behaviour of teenagers in an English high school, *School Librarian*, **55**(3), 125-127.

Shenton, A.K. (2008a) What makes an ideal school library? Some lessons from pupil criticism. *School Librarian*, **56**(2), 80-81.

Shenton, A.K. (2008b) Let's give ourselves credit for what we do well, *Youth Libraries Group: News* [online], Summer. URL: http://www.cilip.org.uk/specialinterestgroups/bysubject/youth/publications/eylr/News-+Summer+2008.htm [accessed 11.07.09].

Shenton, A.K. (2009) "Help chains", information needs and independent learning areas, *School Libraries in View* [online], **27**. URL: http://www.cilip.org.uk/NR/rdonlyres/18EAC596-F587-46B9-849F-BC45BF99E3B7/0/andrewshentonarticle27.pdf [accessed 22.09.09].

Shenton, A.K. (in press a) Modelling-through-reaction: The possibilities for user research, *Information Research Watch International*.

Shenton, A.K. (in press b) Researchers and information professionals: Reconciling the two parties, *Information Research Watch International*.

Shenton, A.K. (in press c) Uniting information behaviour research and the information professional: Identifying the key journals, *Library Review*.

Shenton, A.K. and Jackson, M. (2007) Information literacy teaching and information behaviour, *Library and Information Update*, **6**(4), 42-43.

Shenton, A.K., Nesset, V. and Hayter, S. (2008) Children's conceptualizations of the word "information". *Journal of Librarianship and Information Science*, **40**(3), 151-164.

Taylor, R.S. (1968) Question-negotiation and information seeking in libraries, *College and Research Libraries*, **29**(3), 178-194.

Todd, R. (2003) Adolescents of the Information Age: Patterns of information seeking and use, and implications for information professionals, *School Libraries Worldwide*, **9**(2), 27-46.

Turner, T.C. and Durrance, J.C. (2005) Willingness to return. *In:* Fisher, K.E., Erdelez, S. and McKechnie, L. (eds.) *Theories of information behavior*. Medford, New Jersey: Information Today. 382-386.

Urquhart, D. (1981) *The principles of librarianship*. Leeds: Wood Garth.

Walter, V.A. (1994) The information needs of children, *Advances in Librarianship*, **18**, 111-129.

Williams, R. (1965) *The long revolution*. Harmondsworth: Pelican.

Library and Information Research
Volume 33 Number 105 2009

Understanding our value; assessing the nature of the impact of library services

David Bawden, Andrew Calvert, Lyn Robinson, Christine Urquhart, Colin Bray and John Amosford

Abstract

This paper reports an approach to assessing the nature of the impact and benefit of library services, based on the concepts introduced in Urquhart's Value Project for healthcare information services. Two studies are described and compared. A project in the City of London public library service examined the benefits obtained from specific information requests. A project in several public library services in South West England examined the value obtained from the borrowing and reading of books, linking this with categories of learning objectives. These studies showed the promise, and also the difficulties, of adapting existing impact frameworks to understand the nature of the impact and value of library services.

1 Introduction

The evaluation of library and information services is a complex task, because there are a number of rather general ways in which it may be approached. For recent overviews, see Matthews (2007), Crawford (2006), Booth (2004), and Bawden, Petuchovaite and Vilar (2005). For higher education libraries in the UK, Sconul's VAMP project aims to help academic library and information services

Authors

Professor David Bawden is based in the Department of Information Science, City University. His research interests include knowledge organisation, domain analysis, and the foundations of library and information science. Andrew Calvert was a postgraduate student in the Department, and the paper discusses his dissertation research. Lyn Robinson also works in the Department, as Director of the Information Studies scheme, as well as directing courses for Aslib. Dr Christine Urquhart's research interests include impact studies, particularly in the health library sector, and she has directed several national and local evaluation studies. Colin Bray is Adult Lending Services Manager (Exeter). John Amosford works for Devon County Council, and was closely involved in the Reading – a difference survey also discussed in the article.

Email: d.bawden@soi.city.ac.uk

Received 27 July 2009

Accepted 26 October 2009

assess their impact, as well as provide an assessment of their value, through the contibution by made library staff to the work of their higher education institution (Creaser, Conyers and Lockyer, 2007). This attempt to evaluate the 'true benefit' or 'real value' which library / information services confer on their users, as distinct from the more common 'performance indicators' approach (Poll and Boekhorst, 2007) is a challenge. There has been more interest in developing toolkits and frameworks to help other libraries learn from the experience of other libraries when assessing their own value to their users and their communities.

This paper reports impact assessment in two rather different circumstances: an assessment of the value of the use of material in the City of London public library service for answering specific information requests; and a study in public library services in the South West of England, examining what users felt they had gained from books which they had borrowed. By comparing the approaches used to develop the frameworks in each study, and the findings, we derive some recommendations for impact studies in public libraries, and suggest where the values for the customers may be found.

The recent literature indicates trends towards greater synthesis of evaluation findings as well as toolkit support for performing impact studies. For example, Imholz and Arns (2008) report on the Americans for Libraries Council review of library evaluation studies. The toolkits (detailed below, see also Markless and Streatfield, 2006) encourage some standardisation in the type of questions asked, to help in comparison and synthesis of findings.

Background overview of value assessment

This has generally been approached in three general ways: assessment of monetary value; assessment of impact; and assessment of the nature of the benefit provided.

Assessment of monetary value is in many ways the 'holy grail' of service evaluation, since it provides a justification for the continuation, or expansion, or services in terms acceptable to managers and funders. In an ideal world, each library service would like to justify its activities by demonstrating its 'true worth' to its patrons, by showing its value to them in monetary terms. This could then be compared with the known costs of the service, to produce a true cost-benefit ratio.

In practice, however, such a task is very difficult. Although the costs of the service may be determined accurately, its monetary benefits are notoriously difficult to quantify. Ultimately this is a reflection of the difficulty of putting a monetary value on information itself, since its value can only be determined when, and if, the consequences of the availability and use of information are known, and can be compared with the situation where the information was not available (Yates-Mercer and Bawden, 2002).

As a surrogate for this full understanding, a variety of methods under the general heading of 'contingent valuation' or stated preference may be used. These have been derived as a means of assessing the value of non-market (freely provided, or semi-private, but non tradable) goods and services, by assessing their users' 'willingness to pay', and have been applied to library services in a number of

studies; see Chung (2008) for a recent review and critique. Three examples will give a feeling for this method.

Morris, Sumsion and Hawkins (2002) attempted to estimate the value of the borrowing of books from British public libraries, by asking library patrons to estimate the value of the benefit which they had obtained from books borrowed, and how much they would have been willing to pay for this. The typical value was 8% of the purchase price of the books.

The British Library (BL) used a variation of contingent valuation, as being one of the few such methods accepted by the UK finance ministry, to assess the value of its national library services; both the direct benefits to users and the indirect benefits to the nation. This involved a variety of user surveys, including questions on what the users would have done if the BL services were not available, and what the consequent costs would have been, and also what amount of money users would accept to be happy if the BL did not exist. The study results suggested that the BL generates a value to the nation about 4 times its costs (British Library, 2004).

Aabo (2005) investigated the perceived value of the Norwegian public library service in a similar manner, presenting library users with a scenario in which the municipality was considering closing a library, and asking what they would be willing to pay to keep the library open, or alternatively what they would be willing to accept as compensation for its closure. By combining the results, it could be shown that the amount users would be willing to pay is roughly equivalent to current library costs per head of population, while the cost-benefit ration was about 1:4 (intriguingly, very similar to that found by the BL).

Despite some shortcomings and oversimplifications, contingent valuation methods seem the most acceptable means at present of evaluating cost-benefit of library services. It is likely that they will be further developed and used in the future, particularly as they have been applied to other services in the heritage sector such as museums

Assessment of impact would allow a determination of what 'real difference' a library or information service is making to its users, usually in terms of effects on their work. This approach has been most applied in workplace libraries, and within this sector most notably in healthcare libraries. Here, there has been a particular interest in attempting to show the impact of services, on factors such as improved patient outcome (increased survival, quicker recovery time, shorter stays in hospital), more reliable diagnosis, identification of best treatments, saving of time of medical staff, etc.) Numerous studies have examined this issue: see, for example, Robinson and Bawden (2007a, 2007b), Marshall (2007), Bryant and Gray (2006), and Weightman and Williamson (2005). It has proved difficult to show a conclusive relation between library/information provision and these desirable outcomes. However, there is an increasing body of evidence that information provided by a library / information service can influence patient care outcomes and that assessment of impact at a local level is possible by careful choice of evaluation methods. Impact studies are therefore likely to be increasingly adopted in the future, and in environments other than healthcare. An impact study of the public library service in Lithuania has recently been described

(Rutkauskiene, 2008), and Poll and Payne (2006) discuss some projects that discuss how to determine the impact of higher education libraries on students' learning (the LIRG/SCONUL impact initiative, that developed into the VAMP project).

Assessment of the nature of the benefit provided goes beyond the 'simple' demonstration of value added, with the aim of providing an understanding of the detail of how and why the services provide value. One well-known example is the 'Value Project' (Urquhart and Hepworth 1995), a study that explored an approach to assessing the effectiveness of UK healthcare libraries as information providers and their effect on clinical decision-making and patient care. The study resulted in the development of a toolkit aimed at health sector information professionals to enable them to demonstrate the contribution their services were making. Like later work that emphasises the importance of learning from impact studies (Markless and Streatfield, 2006), the Value Toolkit aimed to enhance the impact of health library services. The evidence from impact should improve strategic planning, by providing a better understanding of customer behaviour, customer priorities and values. Although devised for the medical library environment, this toolkit has been adapted for use in other kinds of library (and updated guidance for health libraries has been published, Weightman, Urquhart, et al. 2008)

Impacts on individual information users are influenced by the policies in practice in the workplace. For healthcare, the prevailing ethos is that of evidence-based practice – decision making that is informed by the best evidence available. For libraries that are not bound to one particular type of organisation or workplace, the policy frameworks are different. Public libraries in England, for example, are represented at national government level by the Museums, Libraries and Archives Council (MLA), a non Non-Departmental Public Body (NDPB), sponsored by the Department for Culture, Media and Sport (DCMS). MLA produced an *Inspiring Learning for All Toolkit* (revised in 2009) to help museums, libraries and archives to assess their strengths and plan improvements, provide evidence of the impact of activities through generic learning and generic social outcomes, and improve their strategic and operational performance. The value of the learning outcomes from use of libraries is mapped to a variety of government policies concerning learning. The assumption, therefore, is that public libraries should be supporting informal and formal learning, and public libraries should be demonstrating their value in terms dictated largely by government policies. It might be expected that policies should reflect consumer needs, but not all members of the public may agree with the government on what is good for them.

Customer value is a very complex concept. The Value project (Urquhart and Hepworth, 1995) tried to identify the impact of the information provided by the library service, as a more objective measure than the associated perceived value of the library service, or its different activities. A systematic review of the research on perceived value, in marketing terms (Sánchez-Fernández and Iniesta-Bonillo, 2007) found considerable ambiguity in the literature on definition, dimensions and measurement of perceived value. For our purposes, in thinking about the value of information and library services, we need to remember that value is concerned with ideas around fitness for purpose (functional value,) social value (is this usage of information or library service expected of me), emotional value, desire for

knowledge (which may overcome other irritations about the service) and the context (which is also dynamic – value judgements are not stable). Value is personal and relative – it can be enhanced according to proponents of customer relationship management (Broady-Preston and Felice, 2006). Customer value discovery research seeks to find out not only the major aspects valued but also the major irritants (McKnight, 2007).

If we are trying to find out how public library services are valued by their users, then perhaps the first step is to assess the impact of their services on the users, in particular how information obtained contributed to their learning, work and leisure.

2 City of London study

This study was carried out as the basis for a Masters degree in Library and Information Science at City University London, and fuller details of background, methods and results are given in the resulting dissertation (Calvert, 2007).

2.1 Purpose and scope

The purpose of this study was to evaluate whether the data collection tools and methods employed in the Value Project could be adapted and made relevant to the supply, use, outcomes and impacts of information in the public library context, to evaluate the extent to which the adapted tools and method could collect evidence of outcomes and impacts in this setting, and to discover the kinds of outcomes and impacts that these tools and methods can assess in a particular public library service, one that is more geared to the business sector and workplace needs than other services.

The Value Project looked specifically at the role of a library as information provider. For consistency, this project focused solely on specific information requests made in a public library as a result of some information need that is either made explicit or implied by the library user. The following scenarios were identified as candidates for the study on that basis:

- Requests for item reservations
- Inter-library loan requests
- Enquiry desk requests
- Reference desk enquiries

This means, of course, that non-users of the library, and users obtaining information through browsing, were not included.

2.2 Survey methods

The methodology of the Value Project was followed so far as was practical, with the main data collection by questionnaire and telephone interview survey of users. However the use of public libraries is diverse and is less predictable that the relatively homogenous use of health libraries. Therefore questions regarding the purposes for requesting information and what the information changed or enabled needed to be adapted.

A framework of 'impact themes' was derived, based on an analysis of relevant 'information impact' studies from the literature. These themes were used to generate questionnaire and interview questions of relevance to the public library setting.

The purpose of the information request was assigned to a set of seven categories appropriate to the public library context:

- recreational
- educational
- career-related
- professional and business
- personal
- community-related
- health-related

with a catch-all 'other' category also available.

Within each, the benefits of information obtained were investigated, including both immediate impact, and longer-term effects.

A first category of questions dealt with immediate impact: quality of provision, how information fits into the existing knowledge base of users, and factors relating to the utility and usefulness of information provided. A second category, dealing with how information will or might contribute in the future, was expanded from the original formulation of the Value Project to encompass what outcomes the information enabled, the degree of change, and changes at an emotional or personal level. This was intended to provide a flexible design in which the purpose could provide some context for the factors of outcome and impact that in combination were designed to provide an indication of the subjective value-in-use.

In keeping with the original survey closed questions were used with 'yes', 'no' and 'not applicable' responses available that collected nominal data in categories of user type, purpose and impact surrogates. However an ordinal rating scale was used to capture the degree of change experienced by users as they perceived it against a series of aspects.

An open-ended question included in a pilot survey asked for views on the questionnaire itself. The issues noted were that of redundancy, the amount of paper used and the size of the envelopes provided. Interpretation did not appear to be a problem although this does not guarantee it was exactly as intended.

The design of the interview largely followed that of the questionnaire. The purpose was to provide more detail on exactly how the information led to the impacts and outcomes reported in the questionnaire. In addition some context and background regarding the purpose and use of information was collected.

Urquhart and Hepworth (1995) used data held by hospital administration, such as staff lists for the purposes of their study. For this study, the use of similar data,

such as member lists and loan histories to contact users who had made specific information requests was infeasible for reasons of data protection. Therefore a question regarding member type (or equivalent demographic category for reference libraries) was added to the questionnaire.

The final version of the questionnaire is shown in Appendix 1.

The preferred distribution method for use in the lending libraries also had to be redesigned, which made achieving a random sample more difficult. The questionnaires were distributed 'anonymously' when requested items were collected or at the reference libraries, when enquiries were made. Wherever possible every user making a request in the reference libraries was asked to take part. To keep the questionnaires anonymous, participation in the interview was voluntary. A separate 'opt-in' contact form was included for those wishing to take part to keep the questionnaires themselves anonymous. Those who volunteered to take part were contacted by telephone after some weeks. This was chosen to allow time between completing the questionnaire and the interview for further impacts to be felt. Each interview was conducted over the telephone at a time chosen by participants and recorded with their consent. After the completion of each interview the contact sheets were securely destroyed and each recording was transcribed.

A small pilot study was conducted in March 2007 at all sites, with the main phase of the study conducted from the end of April 2007 to the beginning of June 2007.

The data gathered using the research instruments was either:

- Nominal quantitative data – categories of user type, purpose of use and categories of effect/impact/outcome
- Ordinal quantitative data – scaled response against a set of categories of possible impacts.
- Qualitative data – text produced from interview transcriptions.

Because of the nature of the data, the relatively small size of the data set, and the non-random nature of the sample, analysis of the survey data was limited to descriptive statistics using tables and graphical representation, and qualitative assessments of response patterns, proportions and themes based on the devised framework. Analysis of the interview data was conducted using the framework, with classes of impact and sub-themes given codes. The interview transcriptions were annotated with these codes after which tables were constructed containing transcription extracts.

2.3 Results

In total 242 surveys were distributed of which 109 were returned, giving a return rate of 45%. The split between libraries is shown in Table 1. The City Business Library, a specialist reference library within the City of London public library service, was unable to take part in the main survey, for operational reasons.

Survey distribution by library			
Site	**Distributed**	**Returned**	**% Returned**
Barbican Library (lending)	90	34	38%
Camomile Street Library (lending)	50	20	40%
Shoe Lane Library (lending)	40	19	48%
City Business Library (reference)	12	6	50%
Guildhall Library (reference)	50	30	60%
TOTAL (Lending)	180	73	41%
TOTAL (Reference)	62	36	58%

Table 1: Survey distribution by library site and type

Types of Lending Library user were determined by the users' library membership type. Greater detail was collected to account for reference library users to make data sets for each type of library compatible. This was dependent on whether they lived, worked or studied in the City or elsewhere leading to a slightly different set of categories than those usually used for library membership, as shown in Table 2.

LIBRARY MEMBERSHIP CATEGORIES	RETURNS
City Worker	52
City Student	1
City Resident	7
Non-City	44
Other Student	5

USER TYPES (NON-LIBRARY CATEGORIES	RETURNS
City Worker	52
City Resident	7
Non-City Worker	15
Non-City Residents	29
Student (All)	6

Table 2: Total user types by both library membership and non-library categories

The results, set out in full in Calvert (2007) are extensive and detailed, and cannot be reproduced in full here for reasons of space. A summary of the main findings only, with some exemplar detail, is given here.

Users' requests for information were categorized, as noted above, in six categories. [The original 'health' category drew only one response, and it was subsumed within 'personal'. The 'other' category was not needed.] Purposes were as follows (some users noting more than one purpose for a request:

recreational	55	educational	46
professional	21	personal / health	18
career-related	12	community-related	6

The analysis of users' answers to questions, set within the analysis framework, addressed issues of whether the information obtained was appropriate, to what extent it met the need, and how it fitted the current knowledge of the users, what they would now do with the information, how, and to what extent, it would change their situation, and what might be the 'emotional' effects (confidence, motivation, inspiration, insight into something new etc.).

	TOTAL – Yes	TOTAL – No	TOTAL - N/A
Met expectations	97	7	4
Suitable for purpose	96	4	8
Appropriate to skills and abilities	79	2	27
Refreshed knowledge/skills	53	13	43
Partially or completely new	53	32	24
Substantiated what was known	50	10	48
Could use at least part immediately	66	5	38
Need more information/another item	41	27	41
Did not provide me with want I needed	11	67	30
Was mostly irrelevant	13	65	30
Came too late to be useful	2	74	32

Table 3: Immediate effects of information requested

	TOTAL - Yes	TOTAL - No	TOTAL - N/A
Learn something new	73	15	19
Make decision/choice/recommendation	30	26	51
Make progress in a task or project	65	11	33
Solve a problem	33	30	44
Enjoy my leisure/spare time	64	18	26
Take some action	26	28	53
Make new contacts	18	31	56
Participate in something	26	25	57
Open/exploit new opportunity	22	30	55
Handle an emergency	3	34	70
Cope with/adapt to change	9	33	65
Minimise some risk	6	31	70
Take on new responsibilities	10	31	66
Provided access to something	23	20	61
Find help/support	11	31	65
Do business/operate a business	11	31	65
Avoid conflict	3	28	72

Table 4: What the information enabled users to do

The following data tables and associated quotations give a 'flavour' of the kind of rich and detailed results obtained from the analysis of the questionnaire and interview results. Figure 1 exemplifies the assessment of the extent of change brought about by information for the recreation category. Figure 2 shows the analysis of the outcomes of obtaining information in the community category.

"..the writer deals with things about about the international movement of people and activities. I think it's a bit futuristic in some of its sociological outlooks, but I'm not sure that there's actually much I can apply out of it other than to be a more rounded and knowledgeable person … I think there's a touch of confirmation of one's own values but also helps put one's own situation in context".

"We were able to confirm what we knew and it gave us a lead to other possible sources .. our plans are to assemble what we can, as much material as we can and then distil it into an interesting and accessible narrative … it did help us fairly significantly to go forward with the project, I can't put that in percentage terms at all, but it was very helpful in that sense" [local historian].

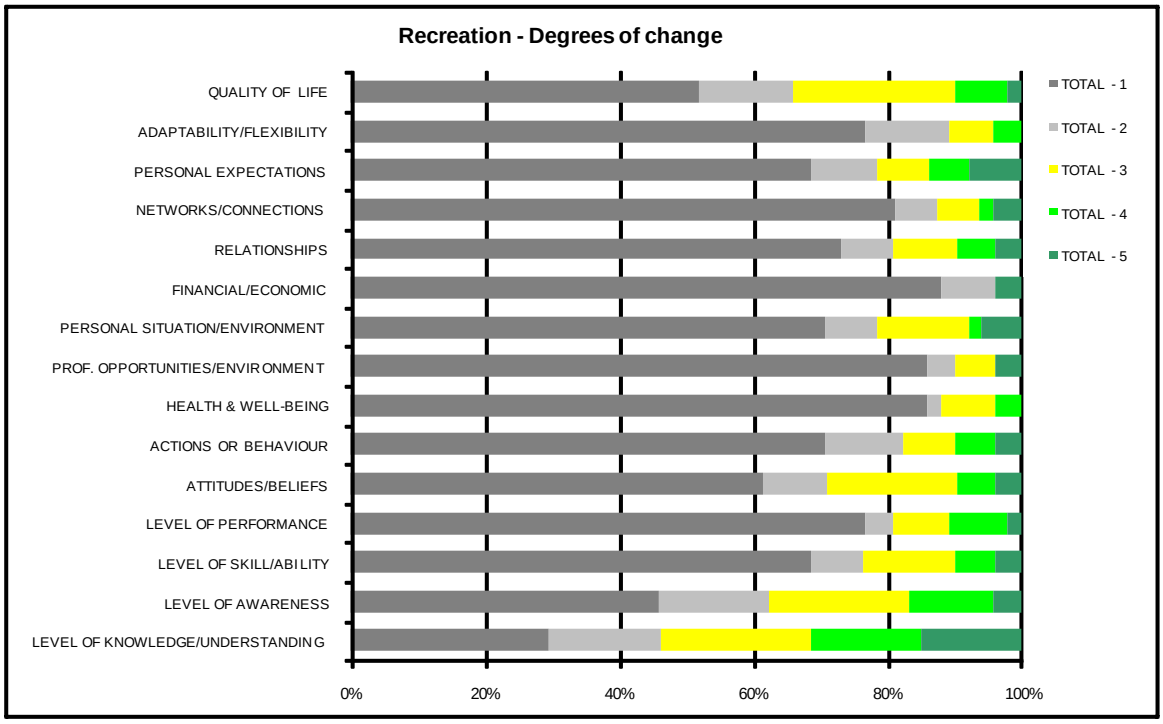


Figure 1: Degrees of change rated 1 to 5 for recreation category

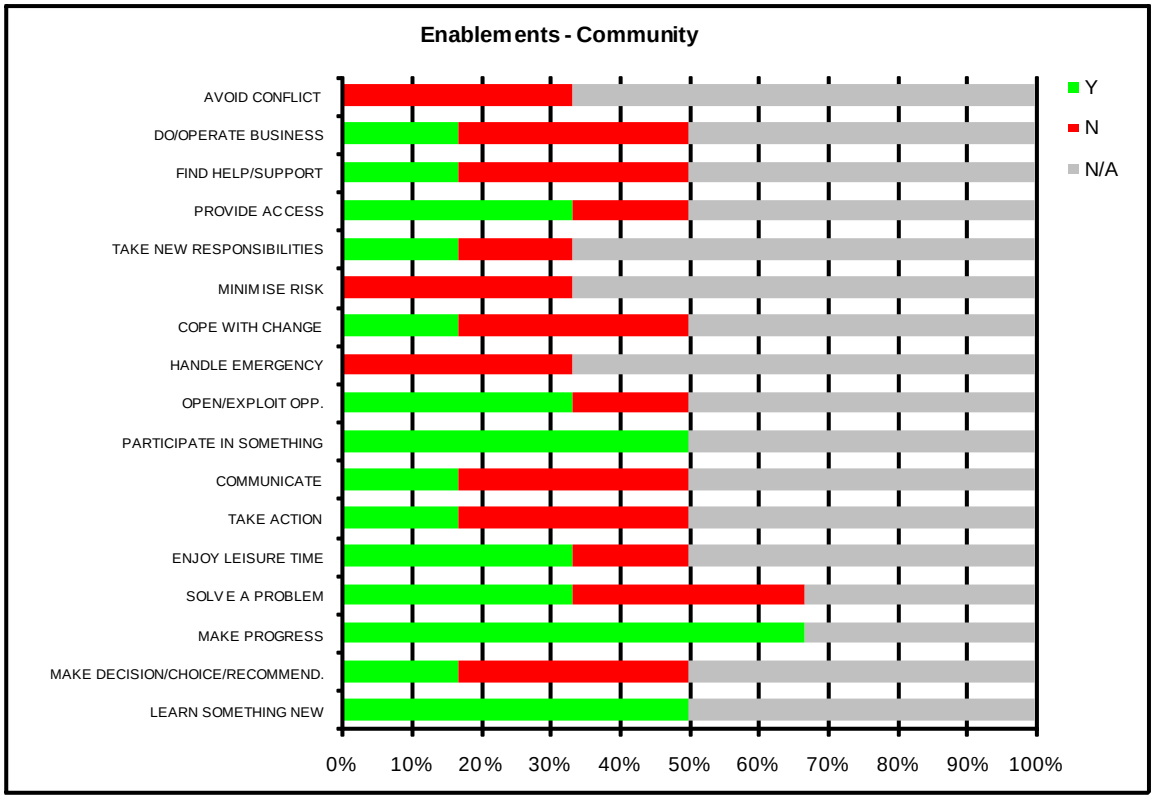


Figure 2: Outcomes for community category

2.4 Conclusions for City of London

The results of this study, admittedly small scale, demonstrated that the libraries involved have made a positive impact for the users that took part, and provided quantitative evidence that demonstrates where the libraries are making an impact.

Particular themes were:

- Learning – the study found strong positive impacts on learning in a wide variety of contexts and across all categories of use. It has been demonstrated that the libraries enable the users involved in this study to learn in both intended and indirect ways and that users recognise this impact.
- Supporting leisure – recreation was the most common reason for using the libraries and therefore this might seem inevitable, however many use self-directed educational activities as leisure pursuits both during their working lives and beyond. Through this, the study found that they get stimulation and to a lesser degree maintain their health, a factor that was more evident in the interviews. The libraries are playing an important role for users in supporting these activities in ways that encourage and motivate individuals to further their interests, leading to involvement in other things.
- Supporting business and professional activity – although this purpose accounted for only about 20% of instances captured in the study, the results in this category showed some of the most dramatic results, particularly amongst the degrees of change. These impacts were not just as a result of learning to support professional activity but also in the practical application of the information used, such as taking action and decision-making. [As noted above, the City Business Library could not take part in the main study; had it done so, this aspect would certainly have shown more importance.]
- Personal life and development – whilst the study did not capture a large number of instances they showed strong positive results indicating that the libraries were playing an important role in supporting personal development through providing information. In addition the responses for this group showed high levels of information-based activity that was in common with professional and business use.

These results show that the approach, adapted from a toolkit for analysis of healthcare library effectiveness, has potential for conducting self-assessment analyses in public libraries. In addition, isolating specific instances of use appears to have addressed the difficulty in separating the impact of libraries from other contributing factors to some degree.

The approach was, however, found to have several limitations. Broader and longer-term impact was not fully captured. Quality of life factors also proved problematic and whilst indirect indicators were more useful, the lack of interview data in some areas limited how these could be used. Access and use of library user data affected the distribution of questionnaires, which importantly meant a random sample was not possible. This issue might need to be addressed in future similar studies.

3 South West England study

This study was carried out in six public library authorities in South West England (Bath and North East Somerset, Devon, Plymouth, Somerset, South Gloucestershire, and Wiltshire) in 2006. Fuller details are given in the project report (Devon County Council, 2006); see also Amosford (2007), Bray (2007).

3.1 Purpose and scope

This study was designed to investigate 'generic learning outcomes' obtained by library users who had borrowed books from public libraries in the South West of England. It built on a smaller scale survey, and *de facto* pilot study, carried out in Exeter Central Library, in the previous year. The questions were based on the Museums, Libraries and Archives Council's set of generic learning outcomes (which were based on a model developed for museums, Hooper-Greenhill, 2000):

- knowledge and understanding
- activity behaviour and progression
- enjoyment, inspiration and creativity
- attitudes and values
- skills

Both fiction and non-fiction was included in the analysis. The emphasis here was on book borrowing but the kind of requests for information considered in the City of London study were not included.

3.2 Survey methods

The study relied on questionnaires completed by library users, which were placed in books as they were lent; completed questionnaires were either returned with the book, or placed in a collection box at another time. The survey asked some other questions about satisfaction with the book and the collection in general.

The purpose of borrowing the book was identified from the categories:

- private study
- formal study
- sharing with or teaching others
- personal enjoyment
- other

Benefits were assessed against the learning outcomes for that user by asking whether the book had:

- motivated or inspired [entertainment, inspiration, creativity]
- provided insight [knowledge and understanding]
- helped develop skills [skills]

- changed daily life [attitude, behaviour, progression]
- changed opinions [attitudes and values]
- brought personal benefit [activity, behaviour, progression]
- helped learn new facts [knowledge and understanding]
- challenged attitudes [attitudes and values]
- entertained [entertainment, inspiration, creativity]

The users were then prompted to make free comments, amplifying or explaining any aspects.

3.3 Results

A total of 5379 questionnaires were received, response rates varying between 17% and 24% for the various libraries. Sixty eight per cent of the responses related to fiction material, 32% to non-fiction.

The full results are set out in the project report (Devon County Council 2006).

The purposes of borrowing the book were as follows (Table 5) (percentages):

	Fiction	Non-fiction
Private study	1	27
Formal study	0	3
Sharing with or teaching others	1	2
Personal enjoyment	97	58
Other	1	11

Table 5: Purposes of book borrowing

The outcomes (Table 6), expressed as the percentage who agreed or strongly agreed that the book had provided each of them, were as follows:

Knowledge and understanding:	
Insight	50
Facts	50
Skills	15
Attitudes and values:	
Challenge attitudes	17
Change opinions	13
Entertainment, inspiration, creativity:	
Entertain	81
Motivate or inspire	29
Activity, behaviour and progression:	
Change daily life	4
Personal benefit	27

Table 6: Learning outcomes from book borrowing

Increase in knowledge and understanding, and entertainment, were clearly the most highly accepted benefits. Relatively few indicated that they had gained new skills, and fewer still that daily life had changed; these being the sort of 'direct impacts' sought by the strict form of 'impact study'. (Though the fact that one in twenty readers suggest that their daily life had changed as a result of borrowing a library book might give some 'life coaches' pause for thought.)

Over 70% of readers claimed to have wholly or mostly got what they wanted from the book. Over 90% claimed it was easy to find. 90% felt that the fiction stock of interest to them was good, 74 felt so for non-fiction.

The report provides a more detailed breakdown into the responses for fiction and non-fiction, and supplements this by quotations, indicative of the insight into the nature of benefits:

"*I found two of the short stories insightful, and they made me aware of different aspects of well known events"*

"science fiction is entertainment, but some books will help change or form new concepts"

"Learn other techniques, consolidate and affirm what I already know"

"To help me change my fast life … to slow down".

To further refine understanding of benefits, a random sample (10%) of the comments for fiction was examined, using Bloom's taxonomy of learning objectives in the affective domain (Bloom, 1956). The aim was to assess whether it might be possible to devise a more detailed set of learning outcomes that would better represent the range of learning outcomes indicated in the comments, and fully represent the learning associated with fiction books.

Bloom's taxonomy of affective learning outcomes should apply to the learning associated with emotional understanding of a situation or people. The outcome 'entertain you' seems insufficient to encompass all the types of engagement that may be taking place with fiction books, and fiction services. Many of the comments on the books indicated that readers were relating to the books they had read, indicating that they were critically reviewing the content and appraising them not just for themselves but for other readers as well. Other comments indicated that the books had 'affected' the readers in some way, and that they had understood a particular setting better. It may be useful to discriminate the types of affective learning outcome that may be associated with the entertainment gained from reading a book, particularly a fiction book.

Bloom's taxonomy of learning objectives in the affective domain covers appreciation, enthusiasm, motivations and attitudes. There are five major categories, going from the simplest (receiving) to the most complex (characterisation). These objectives were aimed at classroom learning at the time they were developed, and it may not be easy to transfer these ideas to individual reading, and open-ended comments made on a questionnaire to be completed by informal learners. However, Bloom's taxonomy for the cognitive domain has been used in a variety of learning situations, and the taxonomy for the affective domain seems a good starting point for assessing any difference made to the views or understanding of fiction books borrowed from the public library.

Many of the comments are not detailed enough to sort them into definitive categories although all, almost by definition, show some evidence of 'receiving' or 'responding' as the respondents have participated in the questionnaire survey and many have made suggestions. The following illustrates examples drawn from the comments on the questionnaire of categories in the taxonomy.

'**Receiving**'

(Receiving phenomena Awareness, willingness to hear, selected attention)

"I found the story very moving and the insight into the reactions of the various characters absolutely believable."

"I found this book very amusing. I think the conception of retirement homes abroad is very interesting."

"This fiction book provided interesting and informative background about the lifestyle of the people and the climate conditions in Alaska."

'**Responding**'

(Responding to phenomena Active participation, making suggestions,(when requested, or voluntary)

"Possibly the most inspiring and thought-provoking book in the library or at any rate in the 500s sections. More of Ervin Laszle's books please."

"Update books on issues which are continually developing, e.g. cancer."

'**Valuing**'

(Accepting the worth of a thing, assuming some responsibility (commitment))

"A few more latest best sellers wouldn't go amiss. Being so near Cornwall – very poor selection about speaking and writing Cornish even though it's of little use nowadays."

"Try to find more books from Russian writers of the great patriotic war so as to at least try to give a more balanced approach from which we can form an opinion."

'**Organising**'

(Organises values into priorities, recognising interrelationships, adapting behaviour to value system)

'**Characterising**'

(Having a value system that controls behaviour, showing internal consistency)

No comments on organisation and characterisation were found. Out of the selection no comments seemed to fit into the higher level categories of organisation or characterisation, but this type of outcome would probably have to emerge from interviews or focus group work with readers.

3.4 Conclusions for South West England

The results of this study showed that user views were on the whole positive and similar proportions for fiction and non-fiction received. In general almost all responses suggested that the reader got at least some form of learning outcome from the book borrowed, and the majority got what they wanted from the book. Where a learning outcome was not identified this was often due to a failing in the book not meeting the need of the reader.

This project, as with the City of London study, indicated the value of this general approach in establishing the nature of the impact of library services. Again, the use of a detailed framework for analysis, although problematic in some respects, enabled rich information to be identified.

4 Discussion

The discussion examines the feasibility of adapting an impact framework from the other sectors for use in public libraries, and the implications for assessing the value of public library services

For the City of London study, the impact framework adapted the principles of the Value project framework (itself evidence-based) by synthesising other impact

research to derive a framework of types of change. The impact framework was evidence-based, and this covered the categorisation of likely purposes as well as the idea of enablement and degree of change.

For the SW England study, the MLA Generic Learning Outcomes were influenced largely by research on learning and museums, and the website now offers different advice (from that available when the study was done). One of the startling, but not unexpected findings in the SW England evaluation was the high proportion of responses that indicated the main purpose of reading fiction was personal enjoyment (and this was reflected in the City of London study). The book borrowers indicated that entertainment was the main outcome, with motivation and inspiration a lesser outcome. For libraries wishing to show the contribution to 'learning', this may not seem good news, but other research indicates that reading fiction does help us to be more aware of social situations and how to 'play them' – reading may perform the same function for our social skills as motor racing computer simulation games do for drivers in improving their driving skills (Oatley, 2008).

For the SW study the use of Bloom's taxonomy for affective learning outcomes was successful in starting to tease out some of the affective learning outcomes that Oatley (2008) notes as an effect of reading fiction. For the City of London study, the outcomes categorised under Recreation that were associated with the most change cannot be compared directly with the SW England study, as the latter was examining book borrowing, not necessarily as purposive as those activities examined in the City of London study. However, taking the main affective outcomes, in terms of degree of change (Figure 1) for the City of London study, there are possible relationships between these and the categories described by Bloom's taxonomy (Figure 3). Interestingly, the SW sample failed to find evidence of *organising* and *characterising* outcomes, but these seem to be evident in the City of London library study. Perhaps these require the library users to be prepared, or purposive. This comparison omits the main degree of change category, level of knowledge/understanding, and also level of skill/ability, but these are not interpreted as affective outcomes. Taking the major degrees of change (rated 3 or above) the prominent categories in the City of London study were personal expectations, and awareness (which may relate directly to Bloom's taxonomy), attitudes/belief, relationships and personal expectations (the latter three could relate to *valuing* in the Bloom taxonomy, but that would require validation in interviews to check whether the degree of response implied in the Bloom taxonomy was met.

One difficulty with impact studies is the problem of separating satisfaction with the setting (library and staff) from the effect of the information provided by the response to the enquiry or the borrowed item. Library services often wish to determine a value that encompasses the physical setting, the attitudes and helpfulness of the staff, as well as the value of the information provided. There probably is a halo effect – higher impacts may be attributed if library users are very satisfied with the service. The SERVQUAL framework for service quality assessment is itself affected by the particular life experiences of library users (Yu et al. 2008) suggesting that even a simple satisfaction rating can be suspect. Impact frameworks need to be specific, and relevant to the user. The more

specific the framework the more likely it is that the library user will focus on the information provided than perceptions of the provider, and a relevant framework will help. The similarities and differences in the types of impacts identified in the two studies suggest that the impact framework should be tailored to the type of item or request being assessed as well as the likely range of outcomes. The MLA framework was based on one used for museums, where educational visits are common. The SW England library findings indicated that the affective learning outcomes are far more relevant to fiction book borrowing, and the City of London study found that recreation was the main purpose, although education was a close second.

5 Conclusions

The aim of this paper was to compare two impact studies in public libraries, to examine the frameworks used for impact assessment and the compare, as far as possible, the findings.

Adaptation of existing frameworks is possible and effective, but the framework needs to be based on evidence from research on user behaviour and expectations in the sector of study. Simply expecting that libraries should demonstrate learning impacts as policymakers expect may mean that more subtle impacts may be missed. When devising the framework it is important to consider the setting and the type of population served, and the type of library activities and outputs to be assessed. These will affect the degree of emphasis to be placed on some types of impact.

References

Aabo, S. (2005) Are public libraries worth their price?, *New Library World*, **106**(11/12), 487-495.

Amosford, J. (2007) Assessing generic learning outcomes in public libraries. *Performance Management and Metrics*, **8**(2), 127-136.

Bawden, D., Petuchovaite, R., and Vilar, P. (2005) Are we effective ? How would we know? Approaches to the evaluation of library services in Lithuania, Slovenia and the United Kingdom, *New Library World*, **106**(1216/1217), 454-463.

Bloom, B.S. (Ed.) (1956) *Taxonomy of educational objectives, the classification of educational goals, by a committee of college and university examiners, Handbook 2: the affective domain*. London: Longman.

Booth, A. (2004) Evaluating your performance. In A. Booth and A. Brice (Eds.), *Evidence-based practice for information professionals*, pp.124-137. London: Facet Publishing.

British Library (2004) *Measuring our value*. URL: http://www.bl.uk/aboutus/stratpolprog/increasingvalue/measuring.pdf [accessed 27.07.09].

Bray, C. (2007) Libraries inspire learning, *Public Library Journal*, **22**(2), 15-16.

Broady-Preston, J., and Felice, J. (2006) Customers, relationships and libraries: University of Malta, a case study. *Aslib Proceedings,* **58**(6), 525-536.

Bryant, S.L., and Gray, A. (2006) Demonstrating the positive impact of information support on patient care in primary care: a rapid literature review. *Health Information and Libraries Journal*, **23**(2), 118-125

Calvert, A. (2007) *"If I had a hammer ..." : Adapting and testing a health sector tool to assess outcomes and impacts in a public library*, unpublished Masters dissertation, Department of Information Science, City University London.

Chung, H.K. (2008) The contingent valuation method in public libraries. *Journal of Librarianship and Information Science*, **40**(2), 71-80

Crawford, J. (2006) *The culture of evaluation in library and information services*, Oxford: Chandos Publishing.

Creaser, C., Conyers, A., and Lockyer, S. (2007) VAMP – laying the foundations. *Performance Management and Metrics*, **8**(3), 157-169.

Devon County Council (2006) *Reading a Difference*. URL: http://www.devon.gov.uk/index/culturetourism/libraries/librarypoliciesplanningreport [accessed 25.7.09].

Hooper-Greenhill, E. (2000) *Museums and the interpretation of visual culture.* London: Routledge.

Imholz, S., and Arns. J. W. (2008) Worth their weight: an assessment of the evolving field of library evaluation. *Public Library Quarterly,* **26**(3-4), 31-48.

Marshall, J.G. (2007) Measuring the value and impact of health library and information services: past reflections, future possibilities. *Health Information and Libraries Journal*, **24**(1), 4-17.

Matthews, J.R. (2007) *The evaluation and measurement of library services*, Westport CT: Libraries Unlimited.

McKnight, S. (2007) Acquisition and cataloguing processes: changes as a result of customer value discovery research. *Evidence Based Library and Information Practice*, **2**(4), 22-36. URL: http://ejournals.library.ualberta.ca/index.php/EBLIP/article/view/521/667 [accessed 14 12.09].

Morris, A., Sumsion, J., and Hawkins, M. (2002) Economic value of public libraries in the UK. *Libri*, **52**(2), 78-87

Museums, Libraries and Archives Council (MLA) (2009) *Inspiring learning: an improvement framework for museums, libraries and archives*. URL: http://www.inspiringlearningforall.gov.uk/ [accessed 13.07.09].

Oatley, K. (2008). The science of fiction. *New Scientist*, **198**(2622, 28 June), 42-43.

Poll, R., and Boekhorst, P.T. (2007) *Measuring quality performance measurement in libraries* (2nd edn.), IFLA Publications vol.**127**, Munich: K.G. Saur.

Poll, R., and Payne, P. (2006) Impact measures for libraries and information services. *Library Hi-Tech*, **24**(5), 547-562.

Robinson, L., and Bawden, D. (2007a) Measuring the impact of healthcare information services. *Informacijos Mosklai* (Information Sciences, Vilnius University), **40**, 95-103.

Robinson, L., and Bawden, D., (2007b) Evaluation of outreach services for primary care and mental health: assessing the impact. *Health Information and Libraries Journal*, **24**(s1), 57-66.

Rutkauskiene, U. (2008) Libraries are good: prove it. *Fifth Naple conference in Vilnius, 9-11 October*. URL: http://www.naple.info/Vilnius/ugne_rutkauskiene.pdf [accessed 25.1.10].

Sánchez-Fernández, R., and Iniesta-Bonillo, M. A. (2007) The concept of perceived value: a systematic review of the research. *Marketing Theory*, **7**(4), 427-451.

Urquhart, C., and Hepworth, J.B. (1995) The value of information supplied to clinicians by health libraries: devising an outcomes-based assessment of the contribution of libraries to clinical decision making. *Health Libraries Review*, **12**(3), 201-213.

Weightman, A., and Williamson, J. (2005) The value and impact of information provided through library services for patient care: a systematic review. *Health Information and Libraries Journal*, **22**(1), 4-25.

Weightman, A., Urquhart, C., Spink, S., and Thomas, R. (2008) The value and impact of information provided through library services for patient care: developing guidance for best practice. *Health Information and Libraries Journal*, **26**(1), 63-71.

Yates-Mercer, P.A., and Bawden, D. (2002) Managing the paradox: the valuation of knowledge and knowledge management, *Journal of Information Science*, **28**(1), 19-29

Yu, L., Hong, Q., Gu, S., and Wang, Y. (2008) An epistemological critique of gap theory based library assessment: the case of SERVQUAL. *Journal of Documentation*, **64**(4), 511-551.

Acknowledgement

The authors thank all those who supported the surveys discussed in the paper.

Appendix 1

City of London Questionnaire

Thank you for taking part in this study.

Please complete the questionnaire once you have had a chance to read or use the item or information that was supplied by the library. If you received or requested multiple items they can all be used for completing the survey provided you requested them for the same purpose, otherwise please choose one.

Completed questionnaires should be returned in the stamped addressed envelope provided before 1st June 2007. Thank you.

Q.1a	Please select one of the following that best represents your library membership or your use of the library on this occasion: *(Please tick)*

City worker …..……	□	[1]	City student ……	□	[2]
City resident (not working or studying in the City) *please see Q.1b*……				□	[3]
Non-City …					
I work in a neighbouring borough***** ..	□	[4]	I am a student in a neighboring borough***** ……..	□	[5]
I live in a neighbouring borough***** (not working or a student) *please see Q.1b*…				□	[6]
I work elsewhere ……...	□	[7]	I am a student elsewhere …….	□	[8]
I live elsewhere (not working or a student) *please see Q.1b* …….				□	[9]
***** London Boroughs of Islington, Hackney, Tower Hamlets, Camden, Southwark or Westminster.					

Q.1b	**If you are not working, are you …*(Please tick)***

Retired ……...	□	[a]	Unwaged ……	□	[b]
Full-time parent …….	□	[c]	Full-time carer ……	□	[d]
Other *please state*…					[e]

Q.2 What is the intended use of the item you requested?

Please think about the purpose of your request and how the information or item will be used by you. **Please tick all those that apply**

Cultural activity ……..	□	[10]	Entertainment ……..…...	□	[11]
DIY ……	□	[12]	Health/Fitness ……	□	[13]
Hobby/Pastime ……..	□	[14]	Leisure …….....	□	[15]
Basic skills (literacy, numeracy etc.)	□	[16]	Self-help/Self-improvement …..	□	[17]
Education ……..	□	[18]	Home/Family Management …..	□	[19]
Personal finance/investments *(e.g. mortgage, pensions etc.)*	□	[20]	Personal legal/rights/responsibilities	□	[21]
Consumer issues	□	[22]	Community information/issues	□	[23]
Civic/Political/Democracy issues	□	[24]	Accessing a formal course of study	□	[25]
Finding out about a new job/career	□	[26]	Career planning/ development/improvement	□	[27]
Identifying potential employers	□	[28]	Job applications/interviews/CVs	□	[29]

Developing personal skills □ [30]

(Please say what skills e.g. using a computer, learning a new language etc.)

[a] _____

Developing or improving job related/professional skills □ [31]

Please say what skills: [a]

_____

Professional research …….	□	[32]	Self-directed/Personal research ..	□	[33]

Research supporting formal academic work/study ……... □ [34]

Please give the subject area of your research: [a]

_____

Business activity *(conducting/doing business)* ……. □ [35]

Please say how the information will be applied:

Starting a business ...……	□	[a]	Business growth/expansion …..	□	[b]
Marketing a business	□	[c]	Operations/Management	□	[d]
Business law/responsibilities ….	□	[e]	Finance/Accounting…….	□	[f]
Sourcing business services …..	□	[g]	Business intelligence/awareness	□	[h]
Applying for grants/assistance	□	[i]	H.R./Training	□	[j]

Other *(please state):* [k]

_____

_____

In what size and type of business will this information be used? *(please state):* [l]

_____

Other use not listed *(please state):* [36]

Q.3	**What prompted you to make a request on this occasion ?** (Please tick appropriate categories)	[37]

Suggestion/information/advice from friend/colleague ……..	□	[a]
Enquiry from someone else	□	[b]
Previous information or item	□	[c]
Personal curiosity/interest ……..……	□	[d]
Specific needs of a task/project/activity……. ……..	□	[e]
Reported on TV/radio or in a newspaper/magazine ……	□	[f]
Library staff found/recommended ……..	□	[g]

Other *(please state):* _____ [h]

Q.4	Did you first try to obtain the item/information you requested from any other source?	**[38]**

Yes ……. □ [a]

Where else did you try? (e.g. internet, bookshop, college/work library, not available elsewhere … etc.) *Please give details*

No …….. □ **[b]**
Where else would or might you try? **(e.g. internet, bookshop, college/work library, not available elsewhere … etc.)** ***Please give details***

Q.5	**What were the immediate effects of the item or information you requested?** *Please circle YES or NO or N/A- not applicable, for <u>each</u> statement*			[39]
It met my expectations ……...	*YES*	*NO*	*N/A*	[a]
It was suitable for the purpose it was requested	*YES*	*NO*	*N/A*	[b]
It was appropriate to my existing knowledge/skills/abilities	*YES*	*NO*	*N/A*	[c]
It refreshed my existing knowledge/experience…….	*YES*	*NO*	*N/A*	[d]
It was partially/completely new to me ……..	*YES*	*NO*	*N/A*	[e]
It substantiated what I knew …….	*YES*	*NO*	*N/A*	[f]
I could use at least part of it immediately ……..……	*YES*	*NO*	*N/A*	[g]
I will need to obtain more information/another item ……	*YES*	*NO*	*N/A*	[h]
It did not provide me with what I wanted ……	*YES*	*NO*	*N/A*	[I]
Most of it was irrelevant ……...	*YES*	*NO*	*N/A*	[j]
It came too late to be useful ……..	*YES*	*NO*	*N/A*	[k]

Q. 6	**What did or might the item/information supplied by the library enable you to do?** *Please circle YES or NO or N/A- not applicable, for <u>each</u> statement* It did or might enable me to …			[40]
Learn something new ……	*YES*	*NO*	*N/A*	[a]
Make a decision/choice/recommendation …….	*YES*	*NO*	*N/A*	[b]
Make progress …….…….	*YES*	*NO*	*N/A*	[c]
Solve a problem ……	*YES*	*NO*	*N/A*	[d]
Enjoy my leisure/spare time …….	*YES*	*NO*	*N/A*	[e]
Take some action ……...	*YES*	*NO*	*N/A*	[f]
Communicate…….	*YES*	*NO*	*N/A*	[g]

Participate in something ……	*YES*	*NO*	*N/A*	[h]
Open/exploit a new opportunity ……	*YES*	*NO*	*N/A*	[I]
Handle an emergency ……	*YES*	*NO*	*N/A*	[j]
Cope with/adapt to change ……	*YES*	*NO*	*N/A*	[k]
Minimise some risk ……...	*YES*	*NO*	*N/A*	[l]
Take on new responsibilities ……..	*YES*	*NO*	*N/A*	[m]
Provided access to something ……	*YES*	*NO*	*N/A*	[n]
Find help/support ……...	*YES*	*NO*	*N/A*	[o]
Do business/operate a business ..……	*YES*	*NO*	*N/A*	[p]
Avoid conflict ……	*YES*	*NO*	*N/A*	[q]

Please add further comments on what you feel use of the item/information enabled you to do:	[r]

Q.7	**Please indicate to what extent you feel using the information or item led to a change in the following** Please circle: where 1 represents no change and 5 represents a very significant change	*[41 1*

Level of knowledge/understanding	1	2	3	4	5	[a]
Level of awareness	1	2	3	4	5	[b]
Level of skill/ability	1	2	3	4	5	[c]
Level of performance	1	2	3	4	5	[d]
Attitudes or beliefs toward something	1	2	3	4	5	[e]
Actions or behaviour	1	2	3	4	5	[f]
Health & well-being	1	2	3	4	5	[g]
Professional opportunities/environment	1	2	3	4	5	[h]
Personal situation/environment	1	2	3	4	5	[I]
Financial/Economic position or security	1	2	3	4	5	[j]
Relationships with others	1	2	3	4	5	[k]
Networks/Connections	1	2	3	4	5	[l]
Personal expectations	1	2	3	4	5	[m]
Adaptability/flexibility	1	2	3	4	5	[n]
Quality of life	1	2	3	4	5	[o]

Q.8	**Has using the item you requested provided …?** *Please circle YES or NO or N/A- not applicable, for <u>each</u> statement*			[42]
Stimulation	*YES*	*NO*	*N/A*	[a]
Inspiration	*YES*	*NO*	*N/A*	[b]
Motivation	*YES*	*NO*	*N/A*	[c]
New experience	*YES*	*NO*	*N/A*	[d]
Insight into something new	*YES*	*NO*	*N/A*	[e]
Sense of inclusion/ being active in something	*YES*	*NO*	*N/A*	[f]
Confidence	*YES*	*NO*	*N/A*	[g]
Creativity	*YES*	*NO*	*N/A*	[h]
Pleasure	*YES*	*NO*	*N/A*	[I]
Escapism/relaxation	*YES*	*NO*	*N/A*	[j]
A sense of achievement	*YES*	*NO*	*N/A*	[k]
A sense of security	*YES*	*NO*	*N/A*	[l]
Broadened your horizons	*YES*	*NO*	*N/A*	[m]
A sense of identity	*YES*	*NO*	*N/A*	[n]
Frustration/anger	*YES*	*NO*	*N/A*	[o]
Uncertainty	*YES*	*NO*	*N/A*	[p]
Please add further comments what you felt through using the item/information				[q]

<u>Q.9a</u>	**Will the results of using the item supplied by the library be felt by or shared with anyone other than yourself?** <u>Please tick.</u>	[43]
Yes *(seeQ.9b)* □ **[a]**	**No** □ **[b]**	
<u>Q.9b</u>	**If yes, with whom will they be shared?** *<u>(e.g. an organisation, colleagues, friends or family, a social or community group etc.)</u>*	[44]
<u>Q.9c</u>	**If yes, how will they be shared?** *<u>(e.g. formal report/presentation/negotiation, informal chat/discussion, publication etc.)</u>*	[45]

	Please give details:
Q.9d	***If yes, what have been or might be the effect of sharing the results?*** Please give details if possible: [46]

Q.10	**Were there any barriers or considerations that prevented you from using the item to the degree you needed?** *(Please state)*	

Thank you for completing this questionnaire. Please return it in the stamped addressed envelope provided before 1st June 2007.

If you would like to take part in the optional follow-up telephone survey please complete the consent form included in the survey pack and return it along with your completed questionnaire.

Like an open book? Accessibility of e-book content for academic study in a diverse student population

Laura Muir, Thomas Veale, Anne Nichol

Abstract

This paper reviews previous research on e-books and the information seeking behaviour of scholars. It presents the initial findings from an in-depth study of the behaviour and experiences of seven students (including students with dyslexia and visual impairment) using e-books for their academic coursework assignments and highlights the information accessibility issues they encountered. It discusses the need to develop a new model of e-book content delivery and proposes a framework for the evaluation of academic e-books from a commercial or 'business' perspective.

1 Introduction

On the 22nd January 2003, the Secretary of State for Education and Skills, Charles Clarke, announced publication of the White Paper "The Future of Higher Education", to encourage "wider participation" and "meet the needs of a more diverse student body". The changing student population includes "more older part-time students and larger numbers from non-traditional backgrounds" (Russell, 2008). This includes disabled students and students accessing learning materials remotely in courses designed for part-time and distance learning. For example, six percent of students enrolling in Scottish Higher Education Institutions declared a disability in 2006-07 and there was an increase of 5% in distance learners from the previous academic year (Scottish Executive, 2008).

The increasing use of electronic learning materials delivered through Managed/Virtual Learning Environments by on- and off-campus learners and the

Authors

Dr Laura Muir is a Senior Lecturer in the Department of Information Management of Aberdeen Business School at Robert Gordon University, Aberdeen.

Thomas Veale was an MSc Information and Library Studies student in 2007/8 at Robert Gordon University, Aberdeen during part of the research project.

Anne Nichol is a Librarian and Faculty Liaison Advisor in the Georgina Scott Sutherland library of Robert Gordon University, Aberdeen.

Email: l.muir@rgu.ac.uk

Received 31 August 2009

Accepted 04 December 2009

legal obligations, under the Disability Discrimination Act (DDA) (Disability Discrimination Act, 2005), of educational establishments to provide equal access to a diverse student population mean that universities must ensure usability and accessibility of electronic resources provided by university libraries for all students. This includes accessible provision and use of e-books for academic study.

According to Carden (2008), an e-book may be regarded as an electronic 'picture' of a printed book, a viewable resource in an online repository, reflowable narrative text, a searchable browsable database of discrete factual components for reference or as a learning object with a toolkit for searching, highlighting and annotating its content. An e-book may be delivered to the user on a dedicated e-book reader or accessed through a library catalogue or on the WWW. In the academic context, e-books are typically accessed through the university library catalogue. The e-book delivery format tends to be similar to that of a printed book for reading one page at a time and one book at a time.

Printed books may be evaluated in terms of their 'readability', layout, availability and portability. E-books may be evaluated in the same way and also in terms of their software features and functionality. However, it is easy to focus too heavily on e-book devices, formats and features and to forget about the nature of the content that they deliver (including data, explanation, instruction, account, argument and narrative), how it is accessed and read, and the needs of the reader of the e-book.

E-books are seen as a means of increasing multi-user access to published material and offer great potential for meeting the needs of a wide range of users accessing library resources remotely (Snowhill, 2001). However, despite the potential benefits to users and libraries, the uptake of e-books has not met expectations and this has resulted in special initiatives and research to establish the issues for providers (JISC, 2008) and the barriers for users (JISC, 2003). The JISC National E-books Observatory Project (JISC, 2008a) was initiated to explore impact, observe behaviours and develop new models to stimulate the e-books market. It was driven by the demand for course texts in electronic format and conflicting concerns of publishers about lack of evidence of demand and the impact on sales of printed books. One of the key aims of that project is to evaluate the use of the e-books through deep log analysis to enable publishers, aggregators and libraries to stimulate an e-books market that has appropriate business and licensing models. An initial online survey (CIBER, 2008) gathered information on awareness, perceptions and attitudes to e-books as a benchmark for further studies. Deep Log Analysis (DLA) of raw server logs (of user access, navigation and activity) together with user and institutional profiles and interview data has explored patterns of behaviour in the use of e-books in a large-scale study.

This paper provides an in-depth view of scholarly e-books from a student-centred perspective. Rather than looking at general patterns of behaviour, it examines the student's journey through an e-book in the context of their study goals and records their behaviour and experiences as individual case studies of e-book interaction. It explores the attitudes and experiences of students on e-book use for their studies, comparing their views before and after a recorded e-book session and examining

usability, accessibility and the processes involved in using e-books. The accessibility and usability of e-books is of particular interest to publishers, aggregators and users. Our research aims to evaluate e-books from a commercial or 'business' perspective to inform the design and delivery of e-book content in the future.

2 Usage and attitudes to e-books

Research on e-books has generally focused on usage (for example, Levine-Clark, 2006) and attitudes to use. Surveys of students' attitudes to the use of e-books found that 24/7 availability, ease of storage and full-text search facility were drivers for use (Chu, 2003). Difficulty in reading/browsing/annotating content, the need for special equipment, no sense of ownership (when frequent use is required over an academic year) and preference for print were found to be the main perceived barriers to use (Rowlands *et al.,* 2007; Tenopir and Rowlands, 2007). Researchers concluded that e-book content which is suitable for quick reference is used more widely (Chu, 2003; Williams and Rowlands, 2007, 20) and that the subject and content of e-books influences how heavily the e-book will be used (Chu, 2003, 41). Prior experience of using e-books has also been found to positively influence acceptability and use of e-books for reference tasks. Specific issues for use were found to be navigation time relative to the time spent viewing content, perceived barriers to access which dissuade use of e-books and the need for simplicity and standardised, easy-to-use interfaces (CIBER, 2008). In a study of Electronic Books ON-screen Interface (the EBONI project) by Wilson, Landoni and Gibb (2002), a set of best practice guidelines was produced for the publication of electronic textbooks, reflecting the usability requirements of the UK higher education community. The main findings of the EBONI study were the need for adherence to the printed book model and presentation adjustments to facilitate ease of on-screen reading.

However, our research challenges this recommendation and argues that it is the adherence to the printed book model that limits the use of academic e-books. We argue that e-book content must be re-designed to meet the scholarly information seeking needs of the user.

3 Understanding scholarly information seeking behaviour

Information seeking behaviour is exhibited during "the purposive seeking for information", which is the "consequence of a need to satisfy some goal" or "a process in which humans purposefully engage, in order to change their state of knowledge" (Marchionini, 1995). It is important to note the importance of the 'goal': information seeking behaviour cannot be explored if there is no clear user goal or genuine need for the information.

One aspect of information seeking activity is the way in which the user interacts with the e-book and the information obtained from it. In addition, variables such as motivation, attitude and experience influence the decisions users make while seeking and using information. Therefore, in a study of information seeking behaviour, it is important to capture the users' physical interaction with the information environment and the thought processes, knowledge structures,

attitudes and affective influences which determine how the information is discovered and used.

Researchers have called for information and library research to move towards "monitoring the actual online seeking behaviour of their users" (CIBER, 2008, 9). Rowlands (2007) argued that "no one is watching the users". He concluded that there is generally a lack of research in user evaluation of expensive online resources. Significant differences in perceptions and views between researchers and library service providers are identified in a report on researchers' use of academic libraries and their services (RIN, 2007). This demonstrates the need for greater understanding of how users interact with and use library services in general and e-books in particular. In a recent report, commissioned by the Strategic Content Alliance (SCA)[*] on Audience Analysis and Modelling (SCA, 2008), personalisation and the importance of usability testing for user engagement and feedback are identified as key themes for the future development of library resources.

Our research was specifically designed to explore the behaviour and experience of students using e-books for their academic study. This paper explores the information accessibility issues arising from this work.

4 Methodology

A mainly qualitative approach to understanding the multidimensional nature of scholarly information seeking (physical, cognitive, affective and socio-cultural) during e-book use was adopted in our user-centred research which aimed to understand not only the characteristics of behaviour but also why users behave in certain ways. The general research approach was qualitative at the ontological level (i.e. a relativist approach) and at the epistemological level (i.e. an interpretivist[†] and subjectivist view). It was at higher levels that the research combined qualitative and quantitative elements. At the methodological level the approach used exploratory and descriptive (qualitative) methods to capture views and experiences and confirmatory (quantitative) methods to capture the behavioural mechanisms of participants. At the axiological level the approach was qualitative (to establish relevance) and quantitative (to enhance rigour and provide supporting evidence).

Wilson and Landoni (2001) recognised the link with Human Computer Interaction research in their methodology for evaluating e-books, which included subjective feedback obtained by questionnaire, covert behaviour observation and interviews. This general approach was adopted in our research to gather data for the creation of individual user case studies of interactions with e-books.

[*] The SCA comprises the JISC, BL, BBC, NHS, Becta, MLA and EPSRC.

[†] Interpretivism is an approach where reality is subjective and constructed by human actors in contrast with positivism where facts and values are distinct.

4.1 Methodological approach

Case study research is an in-depth study where the unit of analysis is an individual, group, organisation, event or phenomenon related to the research questions. It is well suited to empirically investigating user behaviour and issues for individuals and groups and for investigating the interaction between the context and systems or services. In this approach, phenomena under investigation are not isolated from their context and it is precisely for this reason that it is of value. By not separating the components (i.e. the e-book platforms and content) from related matters (the educational context and goal) a holistic examination was possible.

In this research, the primary unit of analysis was the individual e-book user (student) but it is envisaged that as the study develops to include more student participants, further case studies will be created based on groups of students (according to student profile categories or consistent behaviour patterns if they emerge). This will enable the creation of usage scenarios that typify specific issues which characterise user behaviours. However, the aim of our research is not to over-generalise the findings but to embrace the 'outliers' in an inclusive study aimed at achieving universal usability and accessibility of e-books of the future.

4.2 Participants

Seven postgraduate students (from Robert Gordon University, Aberdeen) volunteered to take part in the research and they are described in Table 1.

ID	*Student*
S1	Female, Dyslexic (Meares-Irlen Syndrome, a severe form of dyslexia due to pattern sensitivity, wears tinted glasses), on-campus access.
S2	Female, Dyslexic, on-campus access.
S3	Female, on-campus access.
S4	Female, on-campus access.
S5	Female, on-campus access.
S6	Male, off-campus access (Distance Learning student).
S7	Male, Blind from birth, off-campus access.

Table 1: Student participants

None of the participants was an experienced user of e-books prior to the study. Student 7 is an expert user of assistive technology software (for text-to-speech). The volunteers who took part in the research all expressed an interest in e-books but stated a preference for the printed format before they participated in the research (apart from Student 7). Their willingness to work on the e-book task contributed greatly to the research. By participating, they also had an opportunity to assess how e-books might play a greater role in their studies in future.

4.3 The e-book task

The participants were given a task which was designed to make their interaction with e-books realistic, practical and student-centred. The task was to use e-book content of their choice for their own information needs for a current coursework assignment. This required pre-task preparation by the students to identify the information requirements for a specific coursework assignment. The e-books read by the six students who gained access to one or more e-books during the task are detailed in Table 2. Student 7 was not able to access the e-book of his choice and is not included in the table.

ID	*E-Book*	*Source*	*Read by*
EB 1	Creswell, J.W. (1997) Qualitative inquiry and research design: choosing among five traditions.1st ed. London: Sage.	NetLibrary (NL)	S1, S3, S5
EB 2	Lee-Davies, L. (2007) *Developing work and study skills*. London: Thomson learning.	Biz/ed Premier (BE)	S2
EB 3	Mauch, J.E., Park, N. (2003) Guide to the successful thesis and dissertation: a handbook for students and faculty. 5th ed. New York: M. Dekker.	MyiLibrary (ML)	S4
EB 4	Budd, J. (1998) The academic library: its context, its purpose and its operation. Englewood CO.: Libraries Unlimited.	NetLibrary (NL)	S4
EB 5	Featherstone, M., Hepworth, M., and Turner, B.S., eds. (1991) *The body: social process and cultural theory*. London: Sage.	NetLibrary (NL)	S6

Table 2: E-Books (EB1-EB5) accessed and read by participating students (S1-S6)

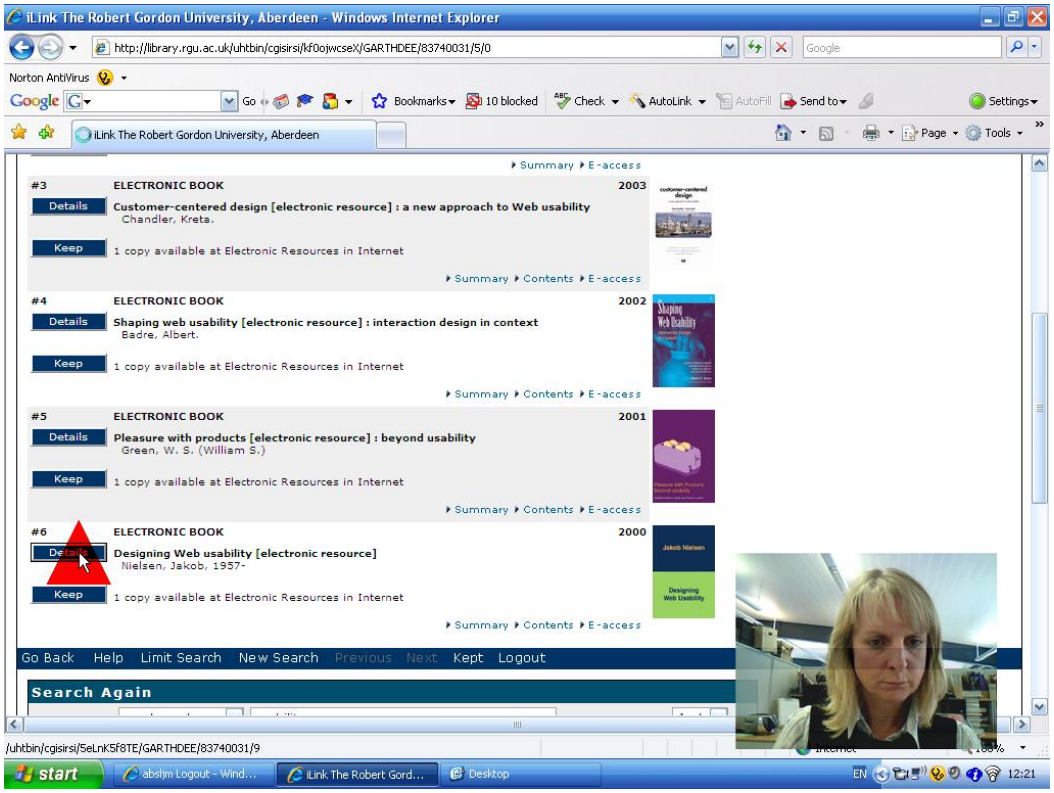
4.4 Data collection methods

Data were obtained from a pre-task questionnaire, a recording of the e-book task session and a post-task interview.

The pre-task questionnaire obtained data about the students, their background, information needs and previous experience and attitudes to e-books. It invited the participants to examine e-books for their studies and use the content in relation to their own information needs. Training on accessing e-books from the university library and use of e-book features (for example, using the 'Table of Contents', searching electronic material, note-taking) was available to all the students taking part before the e-book task session and was provided on request to one of the students (S6).

The e-book sessions with individual participants were observed by the researcher and recorded with usability software (TechSmith Morae) and a Webcam installed on the user's computer (for S1-5 and S7. S6 recorded his session remotely). The

participants were instructed to find access and use an e-book for their assignment and to think aloud during the session as much as possible. The software facilitated capture of the participants' interaction with the e-books (including screen display, mouse clicks, navigation, key strokes and text entry) during the recorded session. The hardware (Webcam) captured video of the users' facial expressions and an audio recording of their 'think aloud' processes during the task. The software also enabled the recordings to be integrated and rendered as a single video clip for each participant. An example of screen-shots from a video clip produced in this way (but not from the research in this paper for reasons of participant data protection) is given in Figure 1.



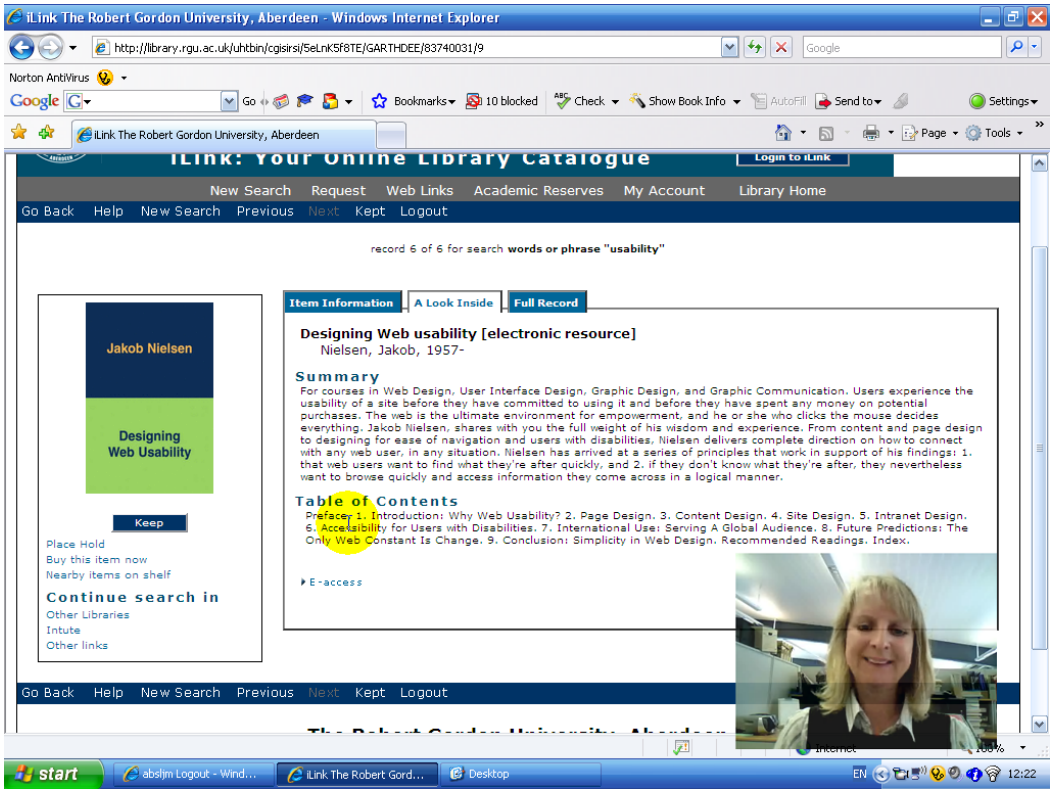


Figure 1: Two screen shots from a recorded video clip (a mouse click is indicated by the red triangle in the top image, the position of the mouse is highlighted by the yellow circle in the lower image and the image of the user is displayed in the bottom right corner of the images)

In addition to the recordings of the user during the e-book session, quantitative data (e.g. number of mouse clicks and time on tasks and subtasks) from each session were generated by the software package for further analysis.

Immediately after the recorded session, a semi-structured interview was conducted with individual participants. The interview was designed to encourage the participant to express his/her feelings and views and describe his/her experience during the task. The researcher had the option to play back video clips from the recording to the participant to facilitate this process.

Triangulation of the quantitative and qualitative data provided a rich picture of the behaviour and experience of each student participant. The key behaviours, experiences and accessibility issues arising from these detailed cases are discussed in this paper.

5 Results

This paper presents the analysis of the data from the questionnaire, recorded session and interview results from the first group of seven students (S1-S7) taking part in the research. It highlights the students' experiences of initial access to the e-book and its content; how they used and would like to use e-books and what helped and hindered them in using e-books to achieve their scholarly goals.

5.1 Initial access

The time spent on initial access to the chosen e-book (i.e. the time to load the e-book) ranged from 2 to136 seconds for S1-S6 (Figure 1) and the number of user actions (e.g. scrolling, text/password entry, option selections, mouse clicks) during this time are illustrated in Figure 2.

Student 7 took so long to access the e-book (using assistive technology software for screen reading) that the time could not be adequately represented on the same chart and he gave up on the remainder of the task as a result. He expressed disappointment that "unfamiliarity with the interface and slow performance of the system" for delivering the e-book was a "barrier" to his use of this resource.

Student 4 accessed her chosen e-book from MyiLibrary almost instantly (2 seconds) and the number of user actions she executed to gain initial access to the e-book was the lowest (along with S2) in the participating group. Although the number of actions required by S2 to gain access to her chosen e-book in Biz/ed Premier was the same as for S4, the time taken was longer (30 seconds) due to slower performance of the system.

Of the students accessing the e-books on-campus, S1 took the most time to access her chosen e-book (75 seconds) in NetLibrary due to the relatively high number of user actions she performed during this time (attributed to her severe form of dyslexia). The same book was accessed by S3 and S5 but they both executed fewer than half the number of user actions of S1. The difference in time to access this e-book between S3 and S5 is attributed to the differences in the performance of the network at the time of access.

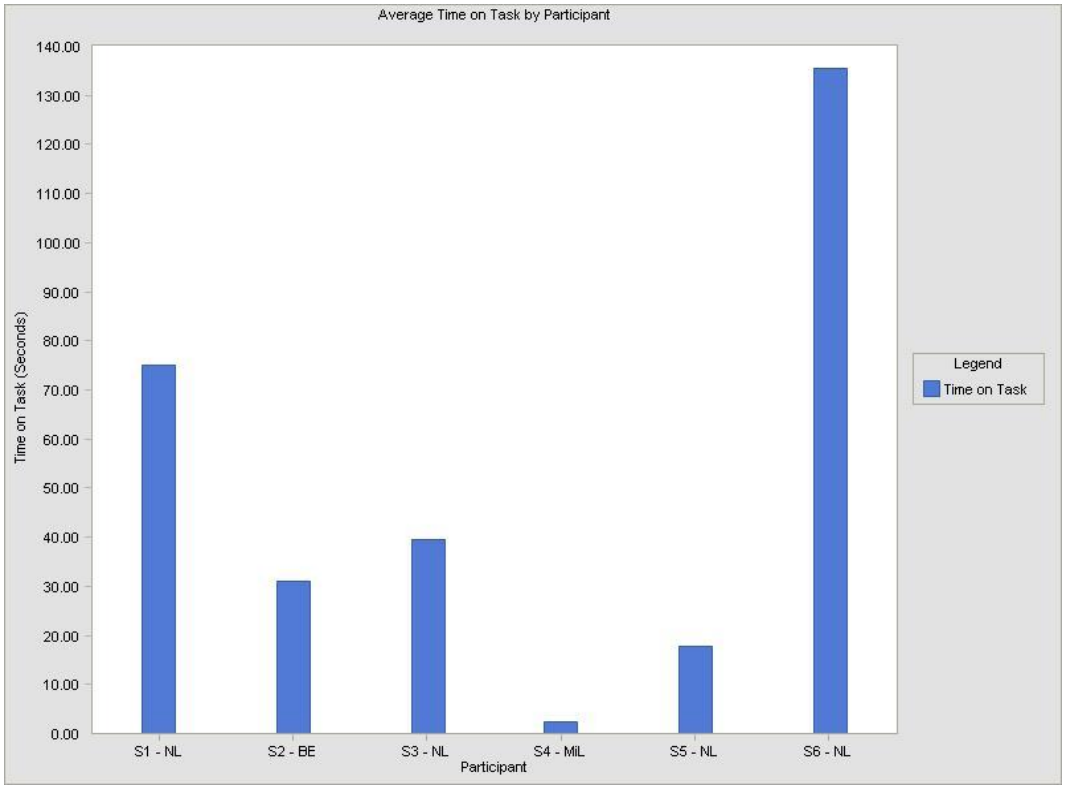


Figure 1: Time on initial access to the chosen e-book for Students 1 to 6 (S1-S6)

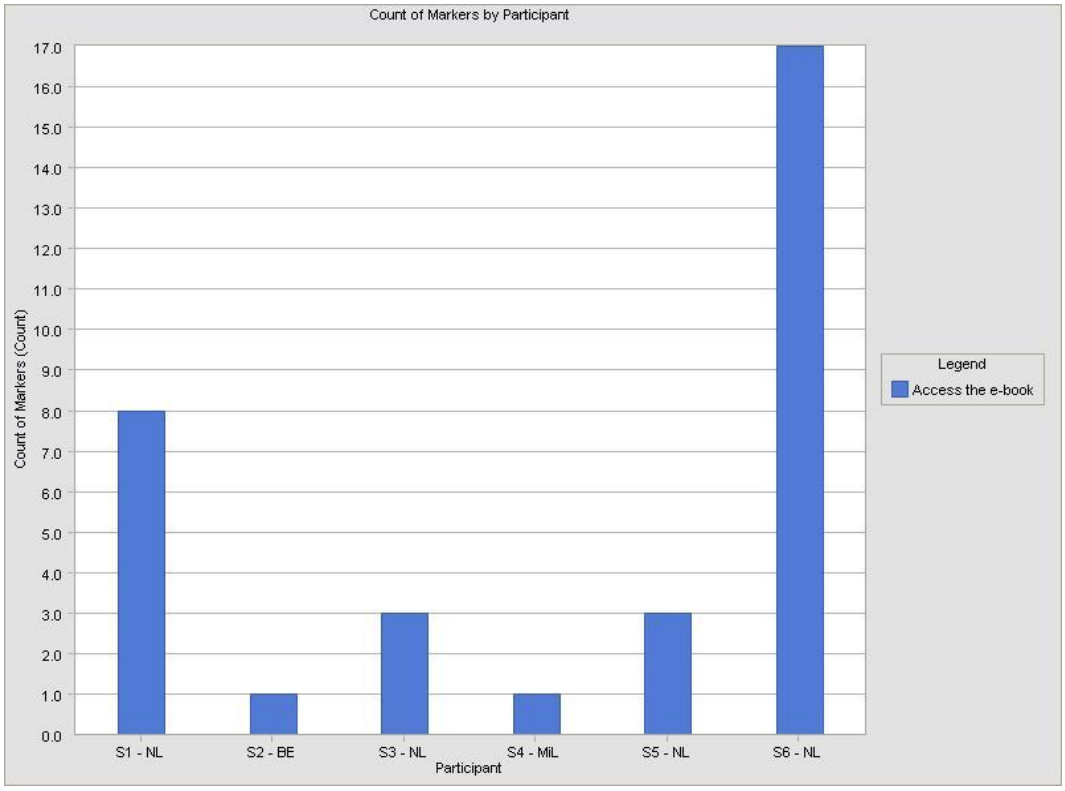


Figure 2: Number of user actions during initial access to the chosen e-book for Students 1 to 6 (S1-S6)

Student 6 gained initial access to his chosen e-book off-campus from NetLibrary in the longest time period (136 seconds) and greatest number of user actions in the participating group. Additional steps in the access process for off-campus students studying by distance learning was a key reason for this but the student felt that the number of steps in the process was too burdensome.

All of the students commented that the interface to the e-book content was not intuitive and that the user actions required to access the books were not clear. This was clearly evident in the experience of the student who is blind (S7) and the student with a severe form of dyslexia (S1), but the user experience was also considered to be unsatisfactory for off-campus access. Even those students (S4 and S5) who gained relatively quick access in fewer user actions felt that the system could be more "user-friendly".

5.2 Accessing e-book features

After initial access to the content of the chosen e-book, four of the students (S1, S2, S3 and S5) accessed the full features of the e-book for note taking. The time taken by the students to access the additional features is illustrated in Figure 3 and the number of user actions to gain access is represented in Figure 4.

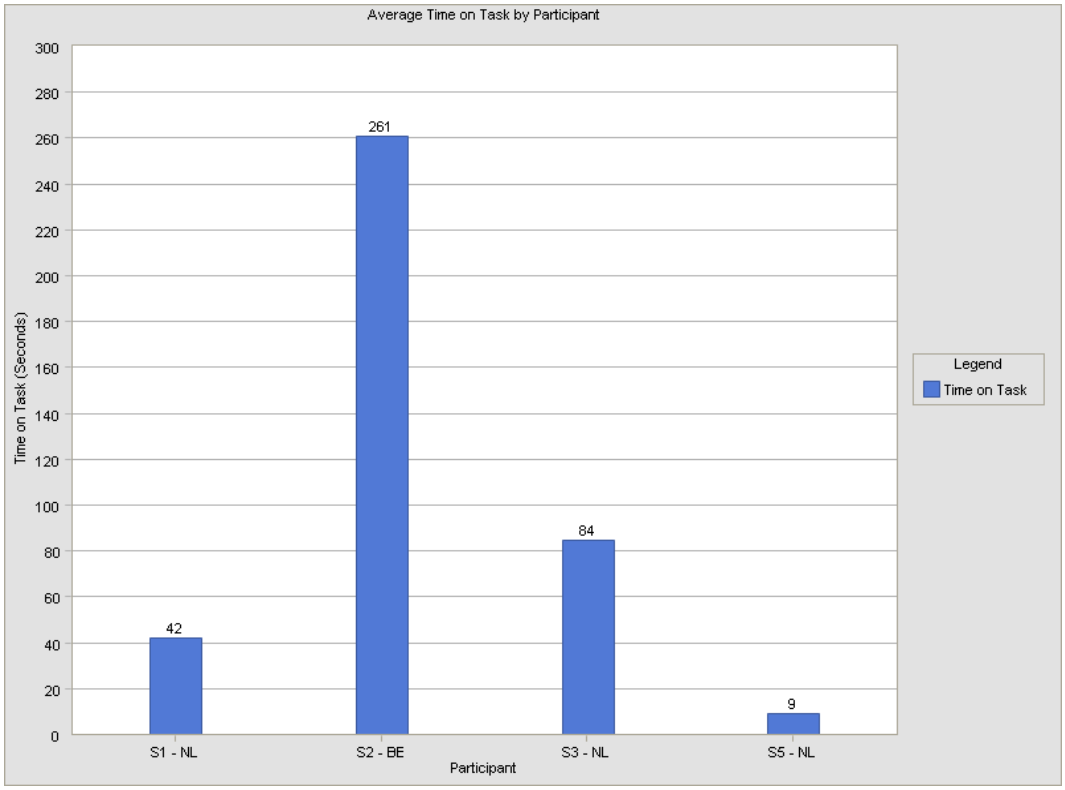


Figure 3: Time to access the full features of the chosen e-book

Figures 3 and 4 illustrate the different experiences of each of the 3 students (S1, S3 and S5) in terms of time and actions required to gain access to the note taking feature in the same e-book in NetLibrary. In this case the time varied from 9 to 84 seconds and reflected the pattern of user actions executed by the students (2 to 11 user actions). The additional steps to login to the system to receive these features were not clear to S1 and S3 and it was not obvious to them that full access had been achieved. For the same reasons, the experience of S2 accessing her e-book features in Biz/ed Premier was particularly time consuming (261 seconds) and labour intensive (25 user actions). Student 6 stated that he did not attempt to access the full features of the e-book due to the time it had taken for him to gain initial access to the e-book.

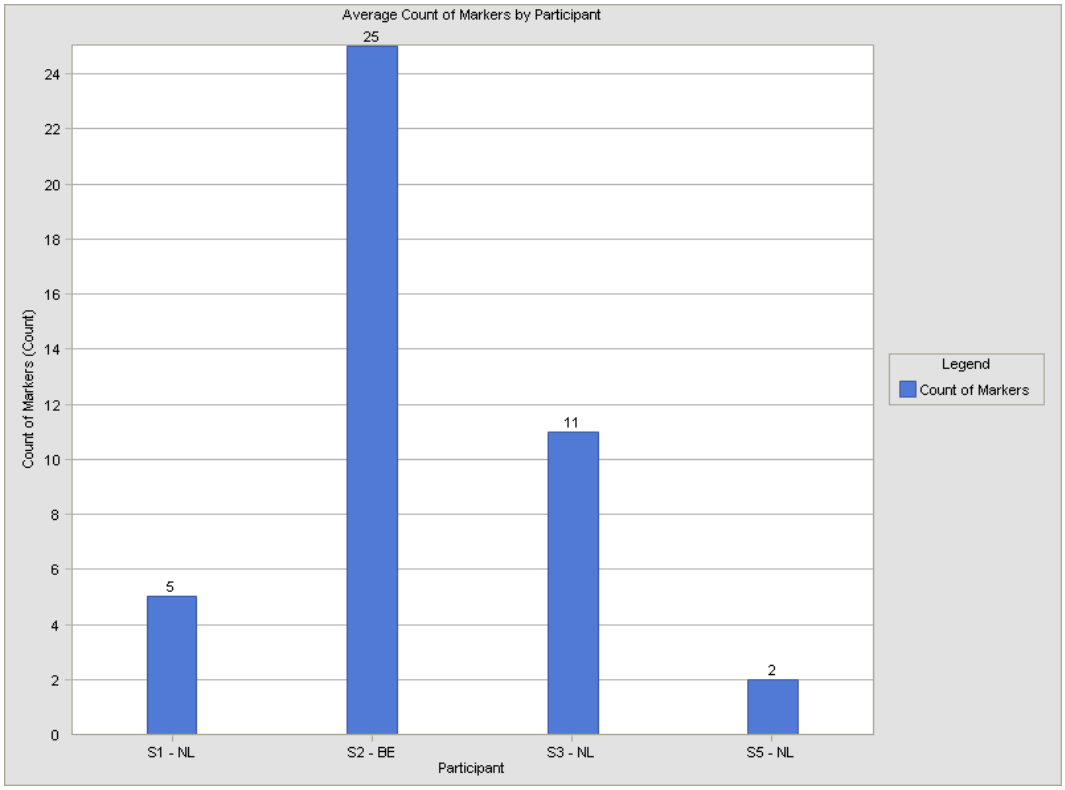


Figure 4: Number of user actions required to access the full features of the chosen e-book

5.3 Using e-books for academic study

Prior to undertaking the use of e-books in the task, the participants expressed a desire to use e-books as a more "convenient" way to obtain information for their coursework assignments. They all expressed the view that they would not use an e-book for a prolonged period due to the strain of reading text on a computer screen. However, they all acknowledged that they did spend a lot of time looking at computer screens for other study and leisure activities. The students also felt that patience, concentration, attention and time were required for the e-book task but they also recognised the importance of these for any type of reading activity.

After access to the e-book was achieved, the students' interactions and attempted actions with e-books were observed and recorded. The average number of mouse movements (measured in pixels) was recorded while the e-book was open and in use by Students 1-6 (Figure 5) and illustrates the relatively intense physical activity (such as mouse movements, clicks, navigation and scrolling) by Student 1.

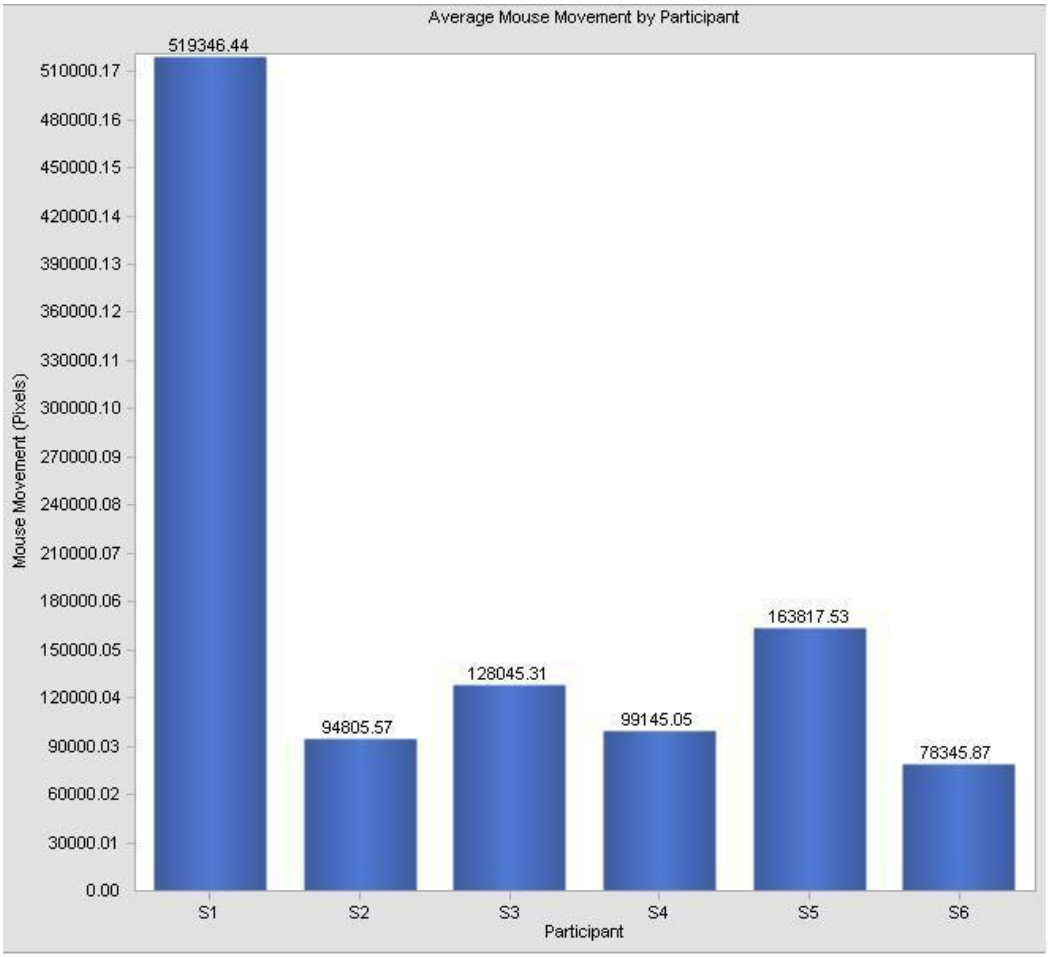


Figure 5: Average mouse movement (pixels) for each student while the e-books were open and in use.

However, it was the actual experience of students using e-books for their study which was of most value in this research and the results are discussed in the context of the actions (highlighting, marking, annotating, searching, scanning, evaluating, navigating and reading) of the students during the task.

Highlighting text was achieved with difficulty due to the slow performance of the system resulting in repeated attempts to highlight the same piece of text. S1 attempted to highlight text 12 times and tried to copy and paste it into an MS Word document. Student 2 expected the highlighting facility to work in the same way as in MS Word, that is by clicking the highlighter tool before highlighting the text. A pop-up dialog box instructed her to click the text first. The slow responsiveness of the system resulted in her presumption that the action had no effect and so she repeated the action 5 times during the load time (50 seconds).

Bookmarking sections and paragraphs was not possible as only whole pages could be marked in this way. Student 2, had developed particular study strategies for her dyslexia and commented that she found it easier to bookmark printed material with adhesive (repositionable) paper notes. Her experience of annotation was frustrating due to the time (2 minutes and 15 seconds) and 11 actions to load the

annotation box. This appeared to be due to her failed attempt to annotate bullet points (which was not permitted).

Taking notes and paraphrasing text was difficult due to access barriers and system performance issues (previously discussed in 5.2). Student 1 successfully created a list of notes in NetLibrary but her attempt to email the notes to herself failed and she did not receive them. She attempted to annotate passages of text but found that only full pages could be marked in this way (S5 also attempted this action). She was confused by the appearance of a menu when right-clicking over highlighted text as she assumed it would apply to that text (rather than the notes pane on the left as was the case). Student 2 used the note taking facility but her hand-written notes were far more extensive and useful for the scholarly task. Student 3 inadvertently started, and immediately tried to quit, the process of accessing the full features of the e-book in NetLibrary and this caused a break in reading flow of 3 minutes. Student 4 preferred to make her own written notes as she felt they were always accessible.

Full text searching was seen as a particular benefit of e-books compared to printed texts by the students. Student 1 searched for the term 'triangulation'. However, she found that the display of results was poor, even when the pane was enlarged, as the contextual information was inadequate. This resulted in additional user effort: browsing the contents in the right-hand pane to see which chapter or section the research result referred to. The search results were also found to be inadequate for the task because the hyperlink took the student to the page of the result rather than its precise location requiring the student to scroll down the page to find the appropriate section. The amount of scrolling required to navigate e-book content was generally found to increase user effort and have a negative impact on user satisfaction.

Generally, presenting information in context in the e-book was an issue that was raised by S1 and was also observed in the interactions of the other students. Flicking and scanning the e-book text to evaluate the content prior to reading was typically not well facilitated in the e-books. Student 3 was frustrated by the long page loading times which inhibited her ability to flick and scan through the e-book content to assess its relevancy in NetLibrary. Signposting in the text (EB2) was found to be particularly helpful to S2's evaluation and contextualisation of the content. She commented that the structure of the content described at various points in the e-book (a walk-through tour at the beginning, a section on purpose and content in the introduction, learning objectives at the start of each chapter and bullet points describing the organisation of sections) was particularly helpful.

Navigating the content of the e-book in Biz/ed premier was found to be "easy" by S2 using the Table of Contents, the control at the bottom of each page and hyperlinks in the text. However, the number of scrolling actions required and long page-loading times increased the effort required for her to use the resource effectively. The symbols used in the icons (for example, to access the 'annotation manager') were not intuitive (and difficult for her to remember) and so she relied on the alternative text produced by hovering the mouse over the symbol. This student commented on the usefulness of the always available Table of Contents and S4 was particularly emphatic in her praise for this feature (although she used

the page navigation more frequently for sequential page reading). Student 5 suggested that page numbers should be included in the Table of Contents so that the user can assess the size of the chapters/sections. Student 1 commented on "cluttered distracting elements" in the e-book in NetLibrary making navigation difficult. Lengthy pages were found to inhibit ease of navigation, requiring more scrolling, and short pages were preferred for easier and more 'digestible' reading. Student 3 commented that the variability in the methods of navigation between different e-book providers was confusing. Interrupted reading flow and increased scrolling activity was caused by sentences and tables split across pages. Student 3 became impatient with this and skimmed over the content as a result. Student 5 experienced tables which did not fit on the screen and required scrolling after which she navigated to the next page where she found the continuation of a sentence that had started 2 pages previously (i.e. before the table). This interrupted her reading flow and understanding of the content as she had to navigate back twice, scroll down to the end of the page and then navigate forward twice to continue reading. On the fourth occurrence of this problem she did not attempt to return to the previous page and ended the session shortly afterwards. Student 6 found the lack of a scroll bar to indicate whether there was more text on a page was unhelpful. It caused him to miss content (and to have to navigate back) on two occasions and he developed the habit of scrolling to the top of every page before navigating forward. Student 6 performed 176 user actions during his reading, all in the right-hand pane (e-book text). Of these, most were scrolling actions (112) equivalent to 1.9 actions per page and 1.75 actions per minute.

Although students generally stated in the pre-task questionnaire that they would be more likely to read for quick reference, the evidence showed that they did read pages sequentially for a considerable period of time during the task. Student 4 stated that e-books are "useful for when you have specific areas to address rather than reading the whole." She read from two e-books: first in NetLibrary (until she was locked out by the provider after 15 minutes and 58 seconds) and then in MyiLibrary (41 minutes 54 seconds). She changed her opinion to a preference for e-books over printed books as a result of the session. She expressed a preference for features in MyiLibrary for easy reading such as the expandable Table of Contents in the left-hand pane and the digestible content length and navigation control at the bottom of the right-hand pane. In her second e-book of the session in MyiLibrary, S4 read the pages sequentially, using the navigation control on each page, from the cover to the end of Unit 1 in 39 minutes 15 seconds. In the pre-task questionnaire she indicated that she had not expected to read for prolonged periods. During the task she demonstrated thorough reading by going back over content on the previous page to re-read the start of a sentence before continuing. Some pages were scanned and others were read more slowly (for example, page 18 was read in 4 minutes 50 seconds). Student 5 read 51 pages sequentially in 45 minutes 4 seconds. Her thorough reading for topic understanding was demonstrated by her use of the content as the author advised. For example, when she came across a reference to an appendix in chapter 3 she navigated to it at that point in the session. The maximum reading time was by S6 who read 60 pages sequentially from one chapter of his chosen e-book in a session lasting 66 minutes and 17 seconds.

The participants were asked if they had any recommendations for the development of e-books. Student 2 commented on the need for a new approach to e-books (although no specific format was suggested). Student 6 suggested that a standard format, simplified access and a wider range of content would improve e-book usability for academic study.

6 Discussion

Although the number of participants in this initial research was limited, the volume of data and depth of analysis provided a valuable insight into the behaviour and experiences of students using e-books for their academic study.

The participants were generally positive and enthusiastic about the *potential* of e-books for study after completion of the task. However, they were frustrated by the barriers to their effective use as a scholarly resource.

The participants valued full-text searching and the always available Table of Contents (although the inclusion of page numbers was a recommended addition) in the e-books.

The students were dissatisfied with the complex and unfamiliar user interface, poor 'learnability' of the e-book features, lack of ease of flicking and scanning to evaluate the content of the e-book, lack of e-book and chapter reading progress information, insufficient signposting within the e-book content, lengthy pages requiring scrolling, interrupted reading flow due to content (e.g. text and tables) split over two or more pages, poor display of search results, subject index links to pages rather than passages of text (requiring scrolling to find the relevant section), slow response to actions (e.g. highlighting and note taking) and the time and number of actions required to access the e-book and the full features of the e-book (including additional login for full access). Eye strain due to reading on a PC screen was also mentioned as a barrier to very long reading sessions (particularly by the students with dyslexia). It is anticipated that wider availability of technology such as Jepsen's PixelQi low-cost and low-power 'e-paper' display screen for laptops and the Kindle E-Book Reader (IEEE Spectrum, 9 June 2009) will make screen reading easier on the eyes in the future.

One potential solution for improving the user experience of e-books is the application of a form of adaptive personalisation. The concept is to make the service adapt to the user, rather than forcing the user to adapt to the system. A report commissioned by JISC investigated personalisation of online resources (in general) for education and research based on a review of available literature and on interviews with key stakeholders (JISC, 2008b). However, the findings highlighted issues of negative perceptions of privacy and trust, inappropriate categorisation of users in personalised systems and the need for greater understanding of user requirements. One of their recommendations was that improved user experience or functionality should be explicitly linked to desired outcomes. This has been the approach in our research.

Nevertheless, evaluating e-books from a student (user) perspective is only the first step towards making e-book content usable and accessible for scholarly activity. In the quest for a model of academic e-book delivery which meets the needs of the

user we argue that, as e-books are commercial products, it is essential to take a wider commercial or *business* perspective which includes the user as the customer.

The research presented in this paper is the initial stage of a research project which considers e-book production, delivery and use as a complete work system. Analysis of user requirements, without considering the processes, infrastructure and other participants (including authors, publishers and e-book aggregators) in the e-book work system would limit the commercial viability of any new approach to delivering e-books. Previous research on e-book use and usability has tended to focus on technical/functional requirements or user feedback without considering the implementation of a new solution to meet users' study needs. This has resulted in research which recommends modifications to the existing delivery model of e-books rather than a radical change. A solution which addresses user requirements but is not commercially viable is of no value. It is for this reason that our research applies Principle-Based Systems Analysis (PBSA) to the evaluation of e-books.

PBSA (Alter, 2002) is a framework for evaluating systems from a 'business' view-point rather than purely from a customer (user), technical or functional perspective. It defines a work system as having eight elements; customers (users), products and services (which the work system exists to produce), processes (system activities), participants (all who contribute to the creation, delivery and support of the system), information (used and captured in the system), technology (dedicated hardware, software and equipment), infrastructure (the supporting human, information and technical resources) and context (the organisational, competitive, technical and regulatory environment).

By considering all eight elements of the e-book work system, the solution to the problem of meeting the needs of students using e-books is addressed in the context of a viable business model for delivery.

PBSA applies seven work system principles to the eight elements of a system. The seven principles are applied to the e-book delivery system to address the business problem of delivering e-books for scholarly activity:

1. Please the customers (users) – to meet the needs of the scholar and to provide a pleasing experience in terms of product & service delivery.
2. Perform work efficiently – to ensure efficient processes for delivery of the e-book content for scholarly activity. This involves evaluating and improving process characteristics, performance and impact.
3. Serve the participants – to meet the needs of all who participate in the e-book supply chain; those involved in using, creating and delivering e-books for academic study.
4. Create value from information – to evaluate the value of the information content of e-books and determine the best model for delivering improvements in information quality and value for scholarly activity.
5. Minimise effort absorbed by technology – to apply technology to deliver accessible, useable e-book content in a high performance system.

6. Deploy infrastructure as a genuine resource – to use the technical, human and information resources to their greatest advantage in the e-book work system.
7. Minimise conflicts and risks – to address conflicting requirements of users and those of other participants in the e-book supply chain to reduce the risk of producing an unworkable business model of e-book delivery.

The evidence in this paper begins to address Principles 1, 2, 4 and 5 by evaluating the current model of delivering academic e-books. It concludes that the current model does not please the users, perform the work efficiently, create value from information or apply technology to minimise the effort required to deliver and use e-books for academic study.

We argue that, based on our analysis of students using e-books for completion of coursework tasks, a new model for academic e-book delivery is required which meets their needs and addresses all seven of the principles in the PBSA framework.

7 Conclusion

This paper supports the need for development of a new model of delivering e-book content: not one that presents pages of text for scanning or reading like a printed book but a work system which meets the needs of all who use, create, license and provide e-books for academic study.

We propose the creation of a new format that pleases the user, performs processes efficiently, serves the needs of all participants in the e-supply chain (including authors, aggregators, publishers, educators and librarians), creates value from information, applies technology to minimise user effort, makes the most effective use of technical, human and information resources and minimises potential conflicts and risks. In this approach the educational context for use and the commercial infrastructure for delivery of e-books must be integral to a solution which offers accessible learning for the diverse needs of our students.

Further work is being conducted to capture the behaviour and experiences of more users (including students with a wider range of disabilities and learning needs), evaluate the issues for all those involved from creation to delivery of e-books and to develop prototypes of new e-book systems for user testing. This approach will ensure that any new system provides a viable and workable commercial solution to meeting the needs of students using e-books for scholarly activity.

References

Alter, S. (2002) Information systems: the foundation of e-business. New Jersey: Prentice Hall. (Chapter 2).

Carden, M.T.J. (2008) E-books are not books. Conference on Information and Knowledge Management, *Proceedings of the 2008 ACM workshop on research advances in large digital book repositories*. California: ACM, 9-12.

Chu, H. (2003) Electronic books: viewpoints from users and potential users. *Library hi tech* [online], **21**(3). URL: www.emeraldinsight.com/10.1108/07378830310494526 [accessed 15.10.08].

CIBER (2008) *Information behaviour of the researcher of the future.* London: University College London. URL: http://www.jisc.ac.uk/whatwedo/programmes/resourcediscovery/googlegen.aspx [accessed 25.1.08].

Disability Discrimination Act (2005) c.13. URL: http://www.opsi.gov.uk/acts/acts2005/20050013.htm [accessed 11.03.08].

JISC (2003) *Promoting the uptake of e-books in Higher and Further Education*, Report to JISC E-book Working Group, Gold Leaf, August 2003. URL: http://www.jisc-collections.ac.uk/workinggroups/ebooks/studies_reports.aspx [accessed 26.2.08].

JISC (2008) *JISC National E-books Observatory Project E-book User Survey: Findings from the first user survey.* London: JISC. URL: http://www.jisc-collections.ac.uk/workinggroups/ebooks/studies_reports.aspx [accessed 1.5.08].

JISC (2008a) *JISC National E-books Observatory Project*. . URL: http://www.jiscebooksproject.org/ [accessed 26.2.08].

JISC (2008b) *Developing personalisation for the information environment* . URL: http://www.jisc.ac.uk/publications/publications/personalisationfinalreport.aspx [accessed 12.10.08].

Levine-Clark, M. (2006) Electronic book usage: a survey at the University of Denver. *Libraries and the Academy*, **6**(3), 285-299.

Marchionini, G. (1995) *Information seeking in electronic environments*. Cambridge University Press, Cambridge.

RIN (2007) *Researchers use of academic libraries and their services*. Research Information Network/Consortium of Research Libraries. URL: http://www.rin.ac.uk/researchers-use-libraries [accessed 3.2.09].

Rowlands, I. (2007) *Superbook: Planning for the eBook revolution*. London: University College London. URL: http://www.ucl.ac.uk/slais/research/ciber/superbook/ [accessed 25.12.08].

Rowlands, I., Nicholas, D., Hamid, R.J. and Huntington, P. (2007) *What do faculty and students actually think about e-books?* London: University College London. URL: http://www.homepages.ucl.ac.uk/~uczciro/findings.pdf [accessed 25.9.08].

Russell, M. (2008) The age of uncertainty, *The Times Higher Education* [online] 20 March 2008. URL: http://www.timeshighereducation.co.uk/story.asp?storycode=401121 [accessed 26.05.08].

SCA (2008) *Audience analysis and modelling*. Strategic Content Alliance. URL: http://www.jisc.ac.uk/media/documents/themes/eresources/sca_chris_batt_reportfinal.pdf [accessed 3.2.09].

Scottish Executive (2008) *Statistics Publication Notice: Lifelong Learning Series: Students in Higher Education at Scottish institutions 2006-07*. March 2008. URL: http://www.scotland.gov.uk/Publications/2008/06/23093807/0 [accessed 26.05.08].

Snowhill, L. (2001) E-books and their future in academic libraries: an overview. *D-Lib Magazine* [online], **7**(7/8). URL: http://www.dlib.org/dlib/july01/07contents.html [accessed 26.2.08].

Tenopir, C. and Rowlands, I. (2007) *Age-related information behaviour : Work package III*. . London: University College London. URL: http://www.ucl.ac.uk/slais/research/ciber/downloads/GG%20Work%20Package%20III.pdf [accessed 26.9.08].

Williams. P. and Rowlands, I. (2007) *The literature on young people and their information behaviour: Work package II*. London: University College London. URL: http://www.ucl.ac.uk/slais/research/ciber/downloads/GG%20Work%20Package%20II.pdf [accessed 16.10.08].

Wilson, R. and Landoni, M. (2001) Evaluating electronic textbooks: a methodology. In: *Proceedings of Research and Advanced technology for Digital Libraries 5th European Conference*, Darmstadt, Germany. *Lecture Notes in Computer Science*, 2163. Berlin, Germany: Springer. 1-12.

Wilson, R., Landoni, M. and Gibb, F. (2002) A user-centred approach to e-book design. *The Electronic Library*, [online] **20**(4). URL: http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published/EmeraldFullTextArticle/Articles/2630200406.html [accessed 12.10.08]. *(Electronic Books ON-screen Interface (EBONI) Project)*.

The Occasion

This research was part-funded by the CILIP LIRG Research Award 2008 and was presented at the CILIP Umbrella 2009 conference at the University of Hertfordshire.

SAUERS, Michael P. Searching 2.0. London: Facet Publishing. 2009. 350 pages. ISBN: 978 1 85604 629 9. £44.95.

Searching 2.0 is aimed at developing user awareness of the vast number of tools that can provide information from the web. Looking specifically at Web 2.0 tools, Michael P Sauers considers the uses of social bookmarking and wikipedia and provides guidance on improving your internet browsers' search capability. Throughout the book, he guides readers through media, local, desktop and even historical searches and provides practical exercises to support the reader to use the tools purposefully. This book is predominately aimed at anyone who considers themselves to have little knowledge of search tools beyond Google and would like to know more about other web tools that support information searches. With library and in particular, reference staff, a target audience, Sauers opens the book with an enthusiastic look at the usefulness of bookmark tool, del.ic.ious, and provides a visual step by step to getting started with tagging and sharing bookmarks, making a conscious effort to stay away from techno speak and to relate the "relationship [of the tools] to librarians and searching" (p7).

Sauers places emphasis on the participative and collaborative nature of Web 2.0 and the style of this book supports staff development with its simple and highly graphical approach to getting started with some of the more popular Web 2.0 tools. Screen captures are used to support the reader and Sauers pedagogically underpins practical instruction by relating the theory to practice.

While the book is designed to be worked through from start to finish, many readers will find it just as easy to dip into areas of specific interest. Each chapter is written with an introduction that is scenario related; in Chapter 7, Sauers discusses how librarians are not comfortable searching for content in print material via the web and then builds the chapter around Google Book Search with practical examples of what can be done using this tool, in a way to tempt those that may not be fully convinced. In Chapter 5, Searching for Media, he encourages readers to try searching for media instead of creating it, with a step by step guide on how to search Flickr for images. He suggests searching Flickr for photos of your library with the challenge that he was surprised at how often "librarians insist that there weren't any photos of their library online" (p138). I couldn't resist testing that theory out and he was right, my university library is on there! Chapter 8, Searching the Past, will be of interest to those that get frustrated by finding that pages on the web that have been updated without crucial information. His final chapter, Data Visualisation – The Future of Search, is an interesting look at some of the tools that may influence searches in the future, using the theory that there may be so much data that there will be a real need for graphical representation of search results. His introduction to 'literature map' and 'kartoo' cloud searches is intriguing and the image of a world map representing number of Olympic medals (p320) is an excellent way of demonstrating what future search results could look like.

Sauers is skilled at simplifying and raising awareness of the uses of Web 2.0 tools and technologies from a librarian's perspective. He provides a visual and user-friendly practical guide that will enable and possibly encourage anyone with an interest in this area. The pace of change that occurs with Web 2.0 tools will

possibly render this book outdated in a very short time, because of the use of screen shots, which is unfortunate as the visual nature of this book adds to its simplicity. That said, much of the staff development aspect of the material in this book is already available on the web, in various guises and usually linked to the related software, the advantage of using this book is that Sauers clearly demonstrates his knowledge on how to underpin the practical tools with theoretical and practical knowledge, something that is not likely to become outdated.

Rachel Fitzgerald
Learning Technology Manager
University of Northampton
rachel.fitzgerald@northampton.ac.uk

DEVINE, Jane and EFFER-SIDER, Francine. *Going Beyond Google: The invisible web in learning and teaching.* London: Facet Publishing. 2009. 156 pages. ISBN 978 1 85604 658 9. £44.95.

For all those who realised that there is more information available than just that provided by a Google search – that of the invisible web - this book offers a range a practical tools and methods for information professionals to engage with students to enhance their searching ability – whilst enhancing the overall skill set of the reader.

The gauntlet has been thrown down and this book has joined the ranks of those trying to stem the growing tunnel vision fostered through Google searching. Generations of users merrily use keyword searching in Google and will often find what they need in the generated results – this is not necessarily a problem for many, it depends on the type of information they are looking for.

For those trying to foster and encourage a deeper understanding of information in a range of contexts for serious research, this publication provides practical tools and techniques which will assist the information professional in their endeavours.

Jane Devine (Chief Librarian) and Francine Egger-Sider (Coordinator of Technical Services) are both at LaGuardia Community College, which is part of City University of New York. Two previous articles by the authors concerning the implications of Google on the library [published in 2004 and 2005] have obviously developed the concepts covered in this publication. The book is split into three main sections which first educate the reader about the differences between the visible and invisible web; then develop the understanding into how to utilise the contents of the invisible web; and conclude with work which is opening up access to the invisible web.

The publication is well referenced and obviously student focused with many useful tips regarding the most common myths and how to dispel these at the outset with a range of well designed graphics and background material. As with any book which makes extensive reference to current web resources, it is possible that this may date some of the content due to the rapid pace of development within this area – a tool which searches in a particular way in 2009 is likely to revise its heuristics during 2010 – this would particularly be true of Google which frequently updates its functionality.

The book often shows its implicit American style in a number of key areas which readers should be aware of. The cover hints of the use of the invisible web in the VLE product Blackboard which has prevalent use in America but is certainly not universal in the world of virtual environments. With the explicit naming of this tool, I was expecting some key functionality to be highlighted and was disappointed to be told to raise the topic of the invisible web in discussion boards or make external links to alternative web resources - something which any basic VLE is capable of doing. Of more concern was the significant focus on research and developments based in the U.S. rather than worldwide. For example, JISC's only reference was to the 2007 study on the Information Behaviour of the Researcher of the Future, and yet there is extensive work in progress to make better access for Institutional Repositories which

JISC has funded from 2006 – a key development in invisible web searching. One of the particular projects (UK Institutional Repository Search – www.intute.ac.uk/irs) has made progress in areas which would significantly benefit the serious researcher with searching techniques not currently capable in Google Scholar.

After reading the book I was certainly far more knowledgeable about the invisible web and techniques to maximise its use – and will be trying out some of the links provided in my own research. Whilst I'm aware that the publication will not have covered all activity in the area and will already be aging – it currently provides an excellent resource for information professionals who are attempting to guide the serious researchers of the future.

Rob Howe
Head of Learning Technology and Media Development
The University of Northampton
Rob.Howe@northampton.ac.uk

McNICOL, Sarah. Joint-Use Libraries: Libraries for the Future. Oxford: Chandos Publishing. 2008.
230 pages. Paperback Edition. ISBN: 978 1 84334 384 4. £37.95.

This well organised book draws together a wealth of knowledge and information regarding joint use libraries. It deals with the history and current issues with an international perspective and is useful for those with little knowledge of joint use libraries and those with more expertise.

The author, Sarah McNicol is an experienced researcher in the library and information research field. She works at Birmingham City University within their research and evaluation unit and organised the first international conference on joint use libraries in 2007.

The book is divided into 9 chapters and explains in very clear language what comprises a joint use library. This is an ideal text for those who have little or no experience. McNicol includes useful data regarding the number of joint use libraries on an international scale which is very helpful and gives detail regarding the different models such as: The Lodger, Flatmates and The Marriage. She uses these metaphors in a very effective way and it allows the reader a clear understanding of the options available. Throughout the book 27 case studies of joint use libraries are used to illustrate the range of projects that have been initiated and the level of success each project has experienced. Many of these case studies are UK based but there are some from the USA, Australia, Europe and Africa which gives the book an international feel.

Chapters 3 and 4 deal with how this type of library operates and the information would be very useful for anyone embarking on such a project. It supplies excellent detail regarding governance, management, budgets and staffing. McNicol also devotes a chapter to partnership working and gives a realistic view on the pros and cons of such an approach.

The book explores other topical themes that may impinge on joint use libraries. In Chapter 6 community involvement is unpicked; social inclusion and community cohesion are strong threads. It draws on observations such as the role of joint use libraries in rural communities, outreach services for disabled users as well as their importance in developing countries. Case studies are used here to illustrate important areas and any issues that may affect such services.

The final theme explored in Chapter 7 is ‘Expanding Horizons’ and discusses lifelong learning, literacy skills and intergenerational learning. It seems that as joint use libraries are often physically situated within a community they are ideally placed to promote such projects and provide support to their members who participate in these initiatives.

The book draws to a close by assessing whether joint use libraries are effective mechanisms and looks at the models used to evaluate the provision. McNicol also addresses the future of such libraries particularly their role in the delivery of libraries services in the developing world.

In summary, this book is very informative. It is ideal for those who have no experience or understanding of joint use libraries, is would be interesting for those

who may be embarking on a joint use library project and would be very helpful for those working in joint use libraries as it includes many real life case studies.

Kate Littlemore
Academic Support Manager
The University of Northampton
kate.littlemore@northampton.ac.uk

MATTHEWS, Graham, SMITH, Yvonne, KNOWLES, Gemma. *Disaster management in archives, libraries and museums.* Farnham: Ashgate Publishing. 2009.
229 pages. ISBN 978-0-7546-7273-9. £55.00

It is a sad fact of life that our planet is prone to periodic natural events, and that the longer the return period, the greater the event, and the less the chance that anything in its path will survive unscathed. If the probability of a risk is low, we should manage that risk not by protection but by planning for recovery, and that is the theme of this book.

The reviewers were expecting a map to guide users, but, in the main, this is a description of the landscape. The authors acknowledge this, but express the hope that it will provide support for advocacy by those who read the recommendations. The blurb on the back cover claims that it will be key reading for scholars and students, and managers, but extremely useful for practitioners: this reinforces our perception.

The chapters are well laid out, with a clear structure; the first half of the book is taken up by explaining the methodology of the research process with the second half of the book containing the advice. Stress is placed on an appropriate disaster control plan, with some tips from those who have experienced a disaster, an excellent checklist of the plan framework, and a table illustrating the features of ten 'best' plans. The case for disaster management is built up, point by point, by use of anonymised quotations from the many respondents to the project, many of who give food for thought. Although the book is by no means a how-to guide to the subject there are still many useful ideas and suggestions that will aid anyone who needs to create or develop a plan for their organisation.

It is disappointing that the book sticks firmly to the remit of the original research as this means there is very limited exploration of the issues relating to digital resources. This issue is acknowledged by the authors, but in a world where an increasing amount of the information dealt with by archives will be born digital, and where there is an increase in electronic library resources, this omission means that from the outset the book only gives a partial picture.

If the audience was academic, this book will succeed. It should also help middle managers make the case for disaster management and, through reading the sources mentioned, be aware of all that may be thrown at them. There are links to a wealth of potentially useful resources which will be invaluable to anyone given the responsibility for disaster management activity, as long as they are given the time to follow up a directory of useful resources. We are presented with several reasons why Disaster Control Plans are not implemented and lack of resources and support are included as major reasons for this. There is enough information here to make a case that could be used to generate higher level support.

The quotes from staff at archives, libraries and museums are very interesting and useful but they have a feel of interesting conversations you might hear between two people passing you on the street – you hear something that grabs your attention but

you would like to have heard more of it! However, for those at the flood barriers, the experience of others may be cold comfort.

Phil Oakman
Records Manager
University of Northampton

Philip Thornborow
Collections and Learning Resources Manager
University of Northampton
philip.thornborow@northampton.ac.uk