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Improving research communication and its application in practice

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This paper looks at how research findings are communicated to library practitioners, the ways in which practitioners can be involved in research, and the application of research in practice. I begin by discussing findings from my doctoral research relating to practitioner reading habits and the communication channels responsible for practitioners gaining awareness of research. This is followed by a description of the systematic review process as carried out by an evidence-based nursing centre to illustrate how other fields involve practitioners in research. I then provide an example of applying research in practice, drawn from my current position in an academic library. I conclude by proposing a number of strategies to improve research communication and the application of research in practice in information and library studies.

Background

Firstly, some personal background in relation to research may be useful, as this will place the discussion that follows in context. My initiation into the ways of research occurred as a mature-age undergraduate student in information and library studies. One of my lecturers was an enthusiast, in many aspects, but particularly about the value of research. She set an assignment for which we were to write a research proposal and carry out a very small-scale project. I selected a sample of five second-year management students to question and observe as they searched the cutting-edge technology of the day, cd-rom indexes. It changed my thinking and my direction in terms of a career in the field. While most of my peers were deciding whether special, academic or public libraries were their future, I began thinking of an honours year. Fellow students wondered at the wisdom of pursuing research in what is regarded as an essentially practical area of study. Undeterred, I enrolled in honours, gathering a sample of Australian journal publications in librarianship to examine the extent of research being published over a twelve-month period, the number and nature of the citations being given by articles in the journals, and the affiliation of authors publishing in the journals. The project introduced me to many of the issues being discussed in this forum, RAILS2, such as research culture, publishing and research, and practitioners and research.

This background is intended to emphasise two things: The important influence educators can bring to the choices made by their students and the value of prudent research topic selection. Although a study by Mary Sue Stephenson (1990) indicated education in research methods has very little bearing on later research activities, I believe it is critical that students' experience in educational institutions enables a choice. This belief is supported by my PhD findings which show the education experience is the most important factor in creating awareness of research (Haddow & Klobas 2004).

Topic selection can be the making or breaking of a research project. I was fortunate to have chosen a topic around which relatively defined parameters could be fixed. There was a body of previous work on which to draw and I was able to avoid the slippery problems inherent when studying people. For new researchers particularly, research needs to be achievable for the experience to be one that they might wish to repeat. In our practice-heavy field it is also desirable that research is useful. But in my mind, the most important aspect of research is that

its relevance and implications are comprehensible. This criterion applies to both the creators and consumers of research information, whether they are researchers or practitioners. It is not my intention to infer a mutually exclusive relationship exists between research and practice. I wish only to stress that whoever carries out research, effective communication is critical in a profession to which, too often, process and procedure take precedence over contemplation and reflection.

Practitioners' awareness of research and reading habits

From the early 1980s, and continuing for just over a decade, research and discussion about the nature of research in library and information studies (LIS) was published widely. Bluma Peritz's 1980 research paper was the base from which many other studies drew their methodology or compared findings (Feehan, Gragg, Havener & Kester 1987; Jarvelin & Vakkari 1993; Nour 1985), chiefly in relation to the extent of research being published in the journals of the field. In the same period a number of discussion articles dealt with the concern that communication between research and practice was flawed – offering suggestions about how this may be rectified (Blick 1984; Clayton 1992; Rayward 1983; Robbins 1990). Practitioners were criticised for publishing too little research (Enger, Quirk & Stewart 1988; Mularski 1991; Olsgaard & Olsgaard 1980; Swigger 1985), a consequence of too few carrying out research (Lynam, Slater & Walker 1982; Stephenson 1990).

Maxine Rochester led a second wave of publications about research in LIS with an article in 1996. Her paper was followed by a number of others (Fisher 1999; Goodall 1998; Harvey 2001; Powell, Baker & Mika 2002; Thelbridge, Nankivell & Matthews 2000; Turner 2002; Williamson 1999) that, in the main, covered the same ground as the earlier publications. In 2000, the Australian Library and Information Association (ALIA) entered the debate and organised a seminar to discuss how to encourage research activity in the profession (Australian Library and Information Association Board of Education).

Most but not all of these publications were in circulation when I was preparing my doctoral candidacy. All but two had been published at the time the thesis was submitted (Haddow 2001). They provided both the background and the impetus for my research. Many placed practitioners squarely in the frame for the so-called 'communication gap' between research and practice, yet, for all the studies and discussion articles on the topic, there was no information about how practitioners became aware of research information. My primary research question was: which communication channels are responsible for creating practitioners' awareness of research? If you accept, as I do, practitioners rarely have the time or the support to undertake research in their professional lives, this is a significant gap in our understanding of research communication.

Practitioners' awareness of research

In the first stages of my research, forty practitioners in Western Australian libraries were surveyed to gather information about their awareness of a specific area of information retrieval research. This research area was alternatives and extensions to Boolean retrieval methods. Practitioners were selected randomly, but within classes of types of libraries and types of positions in libraries to ensure a representative group from the practitioner community. Of the forty, twelve participants were from academic libraries, eight from special libraries, seven from school libraries, and 13 from public libraries. The participants fell into one of six position types – general reference librarian, cataloguer, teacher librarian, a combined manager/reference librarian, manager, and information technology (IT) specialist librarian.

In relation to practitioners' overall awareness of the research area, those working in IT specialist and reference positions had a significantly higher awareness than practitioners working in other positions. Cataloguers had the lowest awareness levels. Although there were no significant associations between awareness level and the type of library in which practitioners worked, position types reflect the functions carried out within libraries – with larger libraries, such as academic and state libraries, having the staff numbers to allow stronger demarcation between roles. This presents a conundrum. An academic library usually boasts a good collection of journals in the field and has close connections to the research community, yet practitioners working in an academic library are potentially highly aware or have low awareness of research in the field, depending upon the position in which they are employed.

It is possible that the research area chosen influenced these findings. If participants had been asked about research in information literacy the results may have differed and only a series of similar research projects using different research areas would address the question of influence. Research into alternatives and extensions to Boolean retrieval methods, though important to most aspects of our professional activities, is perhaps of less relevance to practitioners with little client contact. On the other hand, because it is technological in nature, we might expect that IT specialists were exposed to its basic principles. The research area was useful though, because it allowed for a comparison to be made with practitioner awareness of Boolean retrieval methods. Without exception, the participants were aware of Boolean and most were able to recall how they had gained that awareness.

Practitioners' reading habits

To test previous assumptions that practitioners who read research publications in the field will be more engaged in the research community, participants were asked about their professional reading habits. Practitioners' were asked to list all the professional publications they read, which were then analysed against practitioners' awareness of the research area. The publications listed by participants were classed as either scholarly (with the implication that these include research articles) or a combination of trade and newsletter publications. Nearly two-thirds of the publications read were trade/newsletter publications, and almost all the practitioners read these types of publications. ALIA's newsletter, *InCite*, was read by 45% of the sample, and was the most frequently noted publication. An examination of five years' issues of *InCite* found only six cursory mentions of the research area. So, while the Association's newsletter has the potential to reach a comparatively large proportion of practitioners, it cannot be viewed, in its current form, as an important communication channel, for this research area at least.

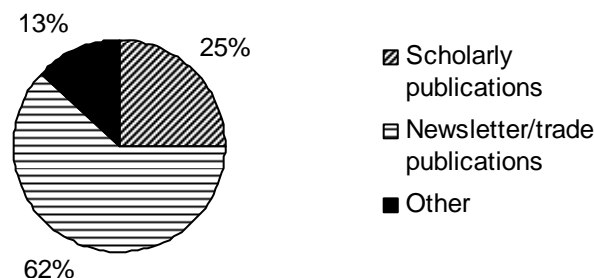


Figure 1: Publication types read by practitioners

Interestingly, when the subject content of the publications read by practitioners was examined, a little over half were firmly based in librarianship with the other half covering related fields, such as IT. This indicates, I believe, the range of expertise library practitioners might be expected to develop. Teacher librarians read the most number of trade/newsletter publications with library content. However, it was the practitioners who read more newsletter/trade publications with non-library content that had higher awareness of the research area: A finding which, again, may relate to the positioning of research into alternatives and extensions to Boolean retrieval methods in the technological sphere.

Although scholarly publications made up only one quarter of the publications listed, nearly 60% of the practitioner sample read at least one scholarly publication in librarianship. When demographic variables were analysed against reading of scholarly publications with library content, a puzzling result emerged – all the practitioners who gained their library qualifications outside of Western Australia read at least one scholarly publication with library content, while only half of the practitioners qualifying in Western Australia did so. An association between reading scholarly publications with library content and a high awareness of the research area was evident in the finding that all practitioners with high awareness scores reported reading scholarly publications. While this association seems to support the notion that practitioners should read more research, it becomes difficult to defend other findings are outlined. For example, the *Australian Library Journal* had the highest proportion of research content of all the most frequently read scholarly publications and research content was less than 20%.

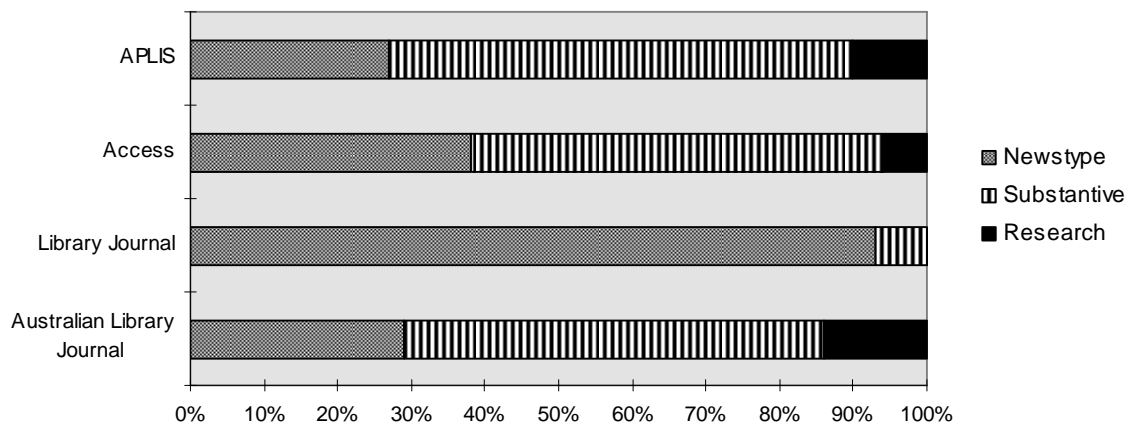


Figure 2: Content of most frequently read scholarly publications

Communication channels responsible for gaining awareness of research

The primary focus of my PhD was to determine how practitioners became aware of the research area. This called for criteria with which to class different types of communication. The communication channels used were from Spence’s work in 1994. Spence had adapted his channels from Everett Rogers’ extensive study of the diffusion of innovations (1983, first published in 1962). Spence’s categories were useful because they generally encompassed the variety of communication channels to which library practitioners may be exposed.

The interpersonal communication channel was considered in three parts – the institutional, commercial and informal channels:

- The institutional communication, equivalent to Spence’s government channel, represents the structure within which library practitioners qualify and work – their education, attendance at conferences, professional association activities and networks, and employer organisation training.

- The commercial communication channel comprises training undertaken with commercial agencies, discussions with vendors, salespeople, and consultants, and membership of an IT systems-related user group.
- Informal communication is characterised by its occurrence external to organisational protocols and the structured imperatives of professional development. This type of communication may be enabled by the institutional and commercial channels.
- Publications (Rogers' and Spence's mass media) include journals, magazines, newsletters, newspapers, monographs and any other documentary sources of information.

A fifth way in which practitioners gained awareness of the research area was added after analysing the data. It was the use of library and other IT systems, such as the Internet.

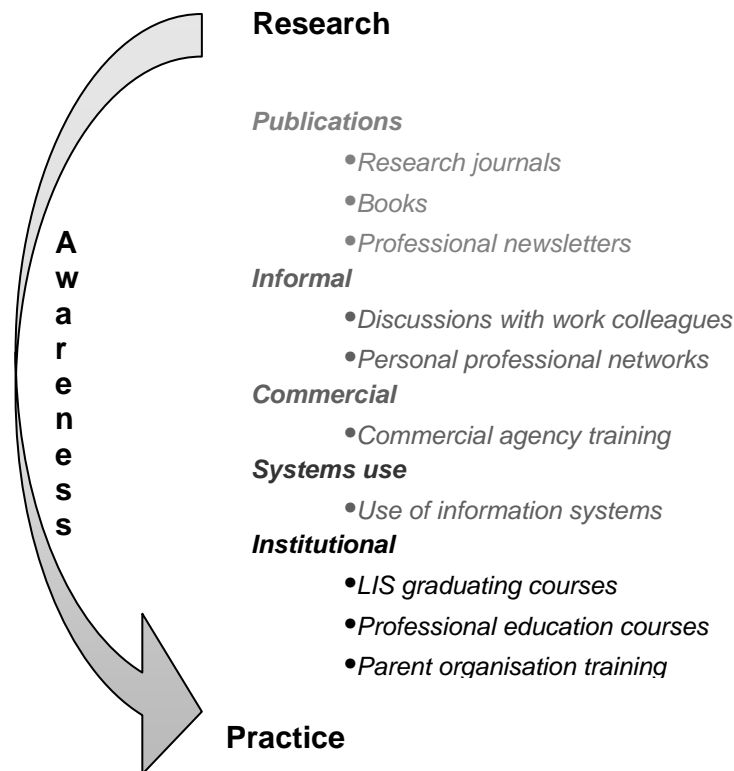


Figure 3: Communication channels responsible for creating awareness of research area (Haddow & Klobas 2004)

As Figure 3 shows, when practitioners' level of awareness of the research area was examined against the channels through which they gained that awareness, the institutional channel was most important – particularly educational institutions. This finding corresponds with the way practitioners became aware of Boolean retrieval methods, with over 60% gaining their awareness of Boolean through their library studies education. Although a quarter of the practitioner sample reported gaining awareness through the publications communication channel, their awareness was low. Moreover, it was sources such as magazines, newspaper articles, computing books and manuals that practitioners reported as those responsible for their awareness.

Bringing two seemingly contradictory findings together – that is, practitioners with higher awareness read scholarly publications and publications were not a means for practitioners to gain high awareness – a conclusion may be that practitioners who read scholarly publications will tend to engage more with research developments in the field. Certainly, the amount of research in scholarly publications read by practitioners indicates they cannot be viewed as significant channels for research communication.

What is clear from the findings is that use of a system that has applied aspects of research is associated with creating higher awareness of the research. This opens a question about the importance of interaction with research or its outcomes: Will a practitioner who is involved with the research process, in any sense, become more aware of research generally? In the next part of this paper I will describe one method used to include practitioners in research and my views relating to the value of this approach.

Involving practitioners in research: A systematic review in nursing

The Western Australian Centre for Evidence Based Nursing and Midwifery conducts systematic reviews into the effectiveness of clinical interventions. A systematic review is produced by gathering all available previous research, combining results if possible, and developing recommendations for practice based on the evidence (Sackett, Richardson, Rosenberg & Haynes 1997). Only studies that meet pre-determined measures of methodological soundness are included in the review, with their quality assessed in relation to sampling, data collection and analysis methods. While other evidence based research centres co-opt researchers to undertake study assessment, the WA Centre asks clinical nurses and midwives to participate in a review panel which is led by a researcher and supported by a project officer. Panel members are invited on the basis of their professional expertise and as representatives of the range of health services to which the outcomes of the review will be useful.

In the early stages of the review, participating practitioners assist in developing criteria for the inclusion of studies, which ensures the research outcomes will be relevant to practice. Panel members are given several short training sessions about research methods and how to assess the quality of research. These workshops expose panel members to some of the difficulties that may be encountered in published research papers and facilitate group interaction.

Participation in the review panel is voluntarily, so meetings of the group are scheduled at four to six week intervals. Research studies and a quality checklist are sent to pairs of panel members to assess independently prior to each meeting. Their assessments are then discussed with the full panel, leading to a decision to either exclude or include a study in the review.

As the systematic review concludes, panel members are asked to provide feedback on the review report. Their clinical expertise ensures the report is comprehensible and addresses aspects of the findings with implications for practice. As well as the final report, a short information sheet is created specifically for practitioners. This brochure-like document outlines the background and purpose of the review and lists recommendations for practice that can be implemented in the workplace.

A systematic review is a lengthy process that requires a willingness to participate on the part of practitioners, and support in the way of funding for a project officer and leading researcher. Panel members appeared to enjoy the involvement and come away from the experience with a greater understanding of research and a sense of achievement in producing a usable answer to a professional question. In the past, it has been suggested that LIS practitioners' lack of research knowledge, interest and motivation are the reasons they do not participate in

research. This is not the experience I had in the evidence based nursing context. The main difficulty for practitioner panel members was finding the time to attend a meeting.

The practitioner researcher

I am now in a position to appreciate that difficulty as a library practitioner in an academic environment. An information literacy project in which I have been involved illustrates how research and practice can come together. The project came to life when the four-year undergraduate degree in education was being restructured. An academic coordinating the restructure was open to the suggestion that the Library provide an embedded information literacy program beginning in the first semester of the course, and continuing through the four years.

We identified a first-year unit that could accommodate the program, considering factors such as a logical link between the unit content and information literacy, and importantly for the academic, time available to deliver the program during class contact. Two reference librarians played a key role in developing the program by adapting existing documents and training materials to the needs of the students. They also delivered two training sessions to over 100 students. Previous research about evaluating information literacy in Humanities was used to identify methods we could apply in this project. As a result, two questionnaires were administered online – a pre-test before the introductory training session and a post-test at the end of the semester.

Despite fewer students participating in the post-test there are sufficient data to help us revise the program for first-year students in 2006 and to develop further training for the students moving into their second year in 2006 – the cohort who were involved this year. We are also considering other methods for collecting data, such as interviewing students and examining assignments for evidence of skills gained through the information literacy program. The additional data will complement the basically quantitative information gathered from the online questionnaires. With this initiative now looking like a longitudinal research study, a joint paper is planned.

Aside from the value of the information literacy program itself, the experience has given me a perspective often missing from the papers exhorting practitioners to carry out and publish research – that of the practitioner with numerous other priorities in the day-to-day delivery of a library service. But, on a more positive note, it has developed the professional expertise of my colleagues and myself and shown that these kinds of initiatives can work.

Conclusion

I have provided evidence that the environment in which a library practitioner works and practitioner reading habits affects the way in which practitioners become aware of research. These issues will influence the likely success of any strategies conceived to improve research communication and its application in practice. I have also described how practitioners might be involved in research. Before presenting the strategies that emerge as a result, I would like to acknowledge the barriers that exist for library practitioners to achieving, or even initiating, research-related activities.

Librarians working in public, special and school libraries do not have the same kind of access to research information as those in academic and state libraries. Nor, in most cases, is there a research culture that can facilitate collaborative efforts. The parent organisations in which these librarians work rarely support research activities, meaning that time and financial resources are in short supply. And because our profession is not bound by the imperative of 'best practice' and accountability in the same way health professionals are, we might suppose

there is some lack of motivation for practitioners to engage in research or see the necessity to keep up-to-date with research developments. We have procedures and processes, but we do not have practice manuals in which the latest evidence is embedded to ensure best practice services are delivered to clients.

In addition to these workplace-related factors, library practitioners' reading habits tend to the practical. Practitioners read publications in the field, but it is not through these that they gain a high awareness of research. High awareness is gained through education, using systems that have implemented aspects of research and interactions with commercial agencies.

On this basis I suggest that the following strategies to improve communication between research and practice and assist practitioners in the application of research in information and library studies.

- Involve practitioners and students in research activities.

Similar to the evidence based nursing example, practitioners and library students should be encouraged to participate in research projects. This can be achieved with a little forethought by researchers – in organisation and topic selection. Most research projects will benefit from the expertise and perspective of practitioners and students and, in turn, the experience should enhance their appreciation and knowledge of research.

- Conduct workshops demonstrating how research can be implemented in practice.

Education is clearly an important channel for practitioners to gain awareness of research. As they go into the workplace there may be few opportunities to engage in professional development activities. A potentially useful strategy to continue practitioners' education is to deliver workshops demonstrating how research findings can address topics of practical relevance. For example, many public librarians are interested in marketing their service. What does the research say about this? Are there findings that support a particular marketing plan? Workshops of this kind will provide practitioners with relevant information, as well as serving as a reminder about the usefulness of research. It is a strategy, however, that requires funding and administrative support.

- Include short research briefs in widely read newsletters and trade publications.

While there is no evidence to suggest including short research briefs in widely read newsletter and trade publications would be successful, until it is tested we will not know. Newsletters and trade publications are widely read by practitioners and the inclusion of short news items about recent research findings in these types of publications will ensure the information is readily available in a format that is comprehensible. This strategy also ensures that practitioners from the full range of library environments can access research information that is useful in their particular professional role.

- Emphasise the benefits of research.

Finally, information and library studies students should be encouraged to think about how research can help them make sense of their future workplace and the services they will provide. In their working life practitioners may gain a sense of reward if their service is based on research evidence rather than bending to the status quo or being driven by technological issues. As a profession we seem to struggle with the notion of how to prove the value of our role. Applying relevant research findings to improve our practice moves toward that proof and demonstrates a willingness to be accountable for the services we deliver.

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