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ABSTRACT

This paper reports on a study of the content of library and information science (LIS) journals published in Australasia (e.g., Australian Library Journal, Fiji Library Journal, New Zealand Libraries, and Singapore Libraries). The study's purpose was to analyze how the content of Australasian LIS journals is affecting knowledge creation among the LIS community of professionals, technicians, academics, and students in Australasia. The paper begins by providing contextual information for the study, i.e., definitions of key terms and concepts. The contextual information is followed by a literature review that includes an analysis of the LIS publishing industry in Australasia. The next section is a description of the methodology of the research, then the content analysis of the journals, and finally the conclusions drawn from this analysis. (Contains 28 references, 9 tables, and 7 footnotes.) (MES)

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Knowledge Creation from Australasian LIS Journals: A Content Analysis

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Introduction

This paper reports on a study of the content of LIS journals published in Australasia (e.g., *Australian Library Journal, Fiji Library Journal, New Zealand Libraries, Singapore Libraries*). The study's purpose is to analyse how the content of Australasian LIS journals is affecting knowledge creation among the LIS community of professionals, technicians, academics and students in Australasia. The paper begins by providing contextual information for the study, that is, definitions of key terms and concepts. The contextual information is followed by a literature review which includes an analysis of the LIS publishing industry in Australasia. The next part is a description of the methodology of this research, then the content analysis of the journals, and finally the conclusions drawn from this analysis.

The context

In this research, *Australasia* has been defined as the combined territory of two key geographic areas. The first area is made up of the twelve countries of Southeast Asia (Brunei, Cambodia, East Timor, Hong Kong, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam).[1] The

[1] I have added East Timor to the list of ten nations included in Yeow-fei's (1999) discussion of the publishing of LIS journals in South East Asia I have included East Timor because it gained independence from Indonesia after Yeow–fei presented his paper at IFLA. I have retained Hong Kong in the list, even though it has come under Chinese political control since Yeow-fei's presentation because it still has a large degree of independence.

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second area is composed of the Oceania nations or territories that are closest to Southeast Asia and are situated in the Southwest Pacific Ocean (Australia, Fiji, Kiribati, Micronesia, Nauru, New Caledonia, New Zealand, Palau, Papua New Guinea, Samoa, the Solomon Islands, Tonga, Tuvalu, Western Samoa, Vanuatu).

Knowledge and knowledge creation are major focuses in this paper, but the terms *knowledge* and *knowledge creation* are used in the literature in the professional literature in many different ways. In this paper, I look at some older and some more recent literature to come to an understanding of what knowledge and knowledge creation might be.

In 1976, D.A. Kemp wrote a book about the nature and properties of knowledge specifically to familiarise librarians and library school students with the subject matter of their disciplinary area. He differentiates between personal (i.e. private) knowledge and social (i.e. public) knowledge, the former being held in the mind of an individual, the latter being possessed collectively by society through its records (p. 25). Kent argues that "social knowledge has at some time been the personal knowledge of an individual: new ideas and new facts, i.e. new knowledge, can only originate in the minds of people" (p. 27). It is equally true, according to Kemp, that there is a reciprocal relationship between social knowledge and personal knowledge: "social knowledge is an essential source of personal knowledge" (p. 27). Kemp's main premise is that access to records, which are the vehicles for communicating social knowledge, is necessary to create personal knowledge. The librarian's role, therefore, is to facilitate the communication of social knowledge between the individual who has created the record and the individual who needs to know about it.

Kemp's perspective is that the librarian is a communication agent whose task involves acquiring, preserving, organising and disseminating the records of social knowledge to help individuals create new personal knowledge. According to Kemp, "social knowledge is the librarian's stock in trade" (p. 28).

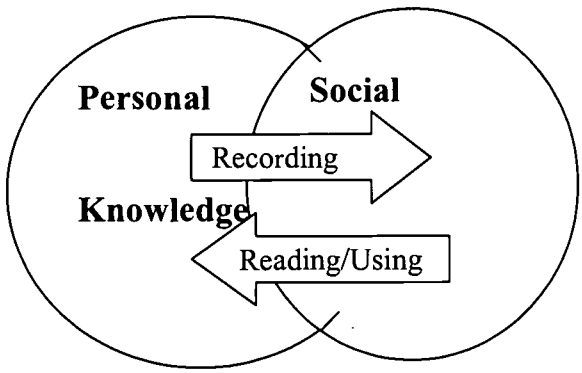

Figure 1. The relationship between personal and social knowledge
(From Kemp 1976, p. 28).

But what of the knowledge of librarians? What do we know about how the librarian's knowledge is created, about how the librarian's personal knowledge becomes the social knowledge for librarianship. If we believe that librarians are like other professional groups, they participate in the knowledge creation process that Kemp described in which there is a reciprocal relationship between personal knowledge and social knowledge as illustrated in **Figure 1**. This process allows individual LIS professionals and researchers to transfer their personal knowledge into social knowledge by means of publication in books and journal articles. These publications are the vehicles for communicating social knowledge to the wider community so that other librarians can create new knowledge through reading the literature. This paper

examines the role in this knowledge creation of process of the LIS journals published in Australasia, a part of the world that includes both developed and developing nations.

In the past few years there has been an inundation of journal articles and books about *knowledge* and *knowledge management*. This recent literature generally focuses on what knowledge is, how existing knowledge can be managed and used to create new knowledge, and thus how knowledge creation can give businesses advantages over their competitors.

In *The Harvard Business Review on Knowledge Management* (1996), a compilation of *Harvard Business Review* articles, Ikujiro Nonaka, a Japanese management scientist, says

> Western managers hold a too narrow view of what knowledge is and what companies must do to exploit it. They believe that the only useful knowledge is "hard" (read: quantifiable) data. But there is another way to think about knowledge and its role in business organizations. It is found most commonly at highly successful Japanese companies such as Honda, Canon, Matushita, and Sharp. Managers at these companies recognize that creating new knowledge is not simply a matter of mechanistically "processing" objective information. Rather, it depends on tapping tacit and often highly subjective insights, intuitions, and ideals of employees ... they are indispensable tools for continuous innovation (pp. 21-22).

In the same book, David A. Garvin, a professor at the Harvard Business School, examines how organisations incorporate new knowledge and become "learning organizations." He states that "learning organizations are skilled at five main activities: systematic problem solving, experimentation with new approaches, learning from their own experience and past history, learning from the experiences and best practices of others, and transferring knowledge quickly and efficiently throughout the organization" (pp. 52-53).

But what is knowledge? The *Oxford English Dictionary* provides many definitions, but the one that appears most suitable, given the topic of this paper, is as follows:

> In general sense: The fact or condition of being instructed, or of having information acquired by study or research; acquaintance with ascertained truths, facts, or principles; information acquired by study; learning; erudition.[2]

In other words, knowledge is more than information. For knowledge to exist, information (that is, truths, facts or principles) must have been acquired or taken in by someone through study, research or instruction. Knowledge, therefore is the result of incorporating information into that which we already know.

In *Managing Knowledge Workers* (1999), Frances Horibe defines *knowledge* as "a body of information, technique and experience that coalesces around a particular subject" (p. 164). Davenport and Prusak, in *Working Knowledge* (Boston: Harvard Business School Press, 1997), go further, explaining that "knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information ..." (p. 5. Thus, knowledge is composed of what we have learned and we draw upon to make sense of our world and to help us progress in what we do.

[2] *Oxford English Dictionary*, 2nd ed. World Wide Web resource, searched 17 April, 2001. Online version available at: http://dictionary.oed.com/

Journals and Knowledge Creation

Davenport (1997) states that managers tend to use

> information that is timely and rich in contextual cues. We like information that involves sequence and causality (that is, a story), which is presented with humor or given a unique interpretation – information that's visually rich in color, texture and style, and clearly has relevance for our work and lives. (p. 26).

In other words, managers like to use information that is understandable, that is presented in an appealing way and that mirrors a context to which they can relate on both personal and professional levels.

If Davenport is correct, and if, as I would presume, librarians are similar to other types of managers, then librarians will prefer to use the type of information he describes. And, if LIS journals are supporting knowledge creation in LIS, they should be containing papers that are understandable to librarians and other information professionals, are on topics relevant to their professional concerns, and are about contexts with which they can personally relate. More specifically, the LIS journals should communicate this blend of professional concern and personal context in journal papers that aim to assist librarians in systematic problem solving, in experimenting with new approaches, in learning from experience, past history, and the best practices of others, and in helping transfer knowledge quickly and efficiently throughout the organisations in which they work. It is through the publication of these types of papers in Australasian LIS journals that the reciprocal relationship between personal knowledge and social knowledge will flourish and new LIS knowledge will be created in Southeast Asia.

Rochester (1996) provides evidence about why it is important to examine the LIS journal literature (as opposed to the LIS monograph literature or other types of LIS literature) when focusing on knowledge creation. She looked at how bibliometric studies have been used to examine the professional communication in the LIS disciplinary area. She observed that "journal articles seem to be the most important formal way of communicating information for most fields, and this holds true for library and information science" (p. 191). She referred to a bibliometric study of five English language LIS journals by Raptis (1992) that showed journals (41%) were the type of publication cited most frequently by LIS authors, followed by monographs (29.19%), reports (12.91%) and conference proceedings (5.07%). Thus, journal literature is likely to be the primary source of access by librarians to the social knowledge of the LIS disciplinary area.

Given these various perspectives on knowledge and knowledge acquisition, for LIS journals to affect knowledge creation, they must first of all be read by other librarians.
This research has therefore focussed on the mix of content over the past decade in Australasian LIS journals. It seeks to determine the journals' content and how this content may be affecting the professional knowledge bases, that is, the frameworks for incorporating new experiences and information by the LIS communities in the various Australasian countries.

Literature Review

In general, our social knowledge about LIS literature has relied on three bibliometric methods: citation analyses, content analyses and use studies. However, our social knowledge about the LIS literature in Australasia is not great. Only a small portion of the literature about LIS literature has focused on Southeast Asian or Oceanian LIS literature. This literature review commences with an examination of the LIS publishing industry in Australasia, with specific reference to LIS journal publishing.

The LIS Publishing Industry in Australasia

In 1999 at the 65th IFLA Council and Conference in Bangkok, Jaffe Yee Yeow-fei presented a paper entitled "The publishing of library and information science journals in Southeast Asia – an overview" (Yeow-fei, 1999). In this paper, Yeow-fei made the following key points:

- The publishing of LIS journals, or more specifically, LIS journals and newsletters in Southeast Asia, emanates from four groups of organisations: libraries, library associations, library schools and commercial publishers.
- There is a high turn over of titles, demonstrating the difficulty in Southeast Asia of publishing in this area. The ones that have survived are in general supported and sponsored by organisations that are themselves stable, whereas "failures are mainly due to poor funding, staffing and inadequate support in the gathering of editorial material."
- Most of the journals are published by national associations in the language of the country[3] therefore the circulation and readership tend to be members of the associations and hence internal to the country of the association.
- The contents of journals "tend to be heavy on news and local topics" and there is very little coverage of the region as a whole or of international issues.

With regard to the level of economic development and its relationship to the publishing output of the Southeast Asian countries, Yeow-fei remarked on the large gaps between nations.

> The levels of development are very uneven and the differences can be great. The big gap between them signifies a big difference between the publishing industry of the countries in terms of the number and quality of publications published annually, including LIS journals. (Yeow-fei, 1999)

Yeow-fei noted that in Southeast Asia, only Singapore can be described as a "developed country." When the focus is the Oceania nations in Australasia, only Australia and New Zealand can similarly be described as "developed countries." Therefore, the gap in development described by Yeow-fei extends across the whole of Australasia, with Singapore, Australia and New Zealand having the most developed publishing industries in the region.

The high turn over of LIS titles described by Yeow-fei is not limited to the less developed countries nor to association publications. Even in the developed nations, LIS journals have not enjoyed a high degree of stability during the past decade. The *Singapore Library Journal*, for example, ceased publication in 1993. In the 1980s, Judge (1988; 1989) found that uncertain funding and ad hoc management practices caused a high degree of instability among the Australian-based LIS journals. From outward appearances, the situation in the 1990s seems to have changed very little. The *Australian Library Review* lasted until 1995, and the *Australian & New Zealand Journal of Serials Librarianship* was published only from 1990 to 1994. In New Zealand, the country's only LIS journal, *New Zealand Libraries*, appeared to have reached its end in 1997 when the New Zealand Library and Information Association got into serious financial difficulties. However, in 1999, the Association resumed publishing *New Zealand Libraries*. The two commercially published LIS journals from Southeast Asia, *Asian Libraries* and the *Australian & New Zealand Journal of Serials Librarianship*, also ceased publication during the 1990s. Although its publisher, MCB University Press, claims *Asian Libraries* was merged into *New Library World*, an analysis of the content from the latter journal issues from each of 1998, 1999 and 2000 showed that there were no papers specifically about LIS activities in the Australasian nations.

[3] The exceptions are the journals from the library associations in Singapore and the Philippines which are published in English.

An important positive change worth noting since Yeow-fei's paper was presented in 1999, is that more and more of the professional association newsletters from the various countries are now available on the World Wide Web. Nonetheless, the readership of association published material is likely to be heavily concentrated among members of the specific association for several reasons. First, the association publications that are available in a paper format are most likely to be obtained through subscriptions based on association membership. Even though publication of many of the newsletters online via the WWW is providing greater opportunity for a broadening of the readership, language barriers still restrict intellectual access to a small readership. The *VASTID Newsletter* from the Vietnam Association for Scientific and Technical Documentation, which was founded in April, 2000, is an example of a newly-established paper-based association newsletter published in a national language.

A more significant problem is that most of the association newsletters are not included in LIS indexing publications and databases. As a result, even when the newsletters contain professional or research papers that might help in the creation of new knowledge they will be primarily of use as current awareness tools. This is because very few people will be able to retrieve those papers when they are seeking information to assist with research or practical applications. Those publications that are indexed are the more substantive journals, journals that come predominantly from the developed countries. The only currently published LIS journals from, or focusing on, Australasia that are published outside of Australia and are indexed in LIS indexing databases appear to be *New Zealand Libraries* and the *Malaysian Journal of Library and Information Science.* The latter journal, however, is not held in New Zealand so its content was not available for this research.

Citation analyses

LIS journals contribute to knowledge creation when their content has had an impact on their readers' personal knowledge creation processes. The LIS journals, in this sense, help knowledge creation by providing vehicles of communication for the social knowledge created by both scholars and professionals within the LIS disciplinary area. Thus, when past articles from LIS journals are cited in newly published articles, those citations provide evidence of the LIS journals' contributions (as vehicles of scholarly and professional communication) to new knowledge creation.[4]

Although the study being reported in this paper has not used citation analysis as a methodology, it is worthwhile reporting on several such studies related to Australasian LIS journals because they provide valuable insights into the roles of these journals as vehicles of communication in the knowledge creation process. Of particular interest are two citation analyses of Australian library literature and two from New Zealand.

The impact of Australasian LIS journals as determined from citation indexes was studied by Rochester (1996). She points out that the two major citation indexes, *the Science Citation Index*, and the *Social Science Citation Index*, include primarily the major mainstream journals from the US and UK (p. 192). As a result, in those major citation indexes there are very few LIS journals, and none are from Australia. I used the search engine on the ISI web site (http://sunweb.isinet.com/isi/index.html) to search the master journal list, and I found that there were no LIS journals from Australasia included in any of the ISI citation index products.[5] This failure to include Australasian LIS journals may suggest that ISI's editorial bodies

[4] Rochester (p. 192) points out that there are problems with employing citations as measures of use, since we cannot tell the reason that the work was cited: was it used, was it rejected, was it considered an excellent source, a poor source, etc. Nonetheless, citations are excellent sources of evidence that the articles have been read, and therefore have influenced knowledge creation in some way.

[5] The searches were conducted on 13 April, 2001, using the terms "library" "librarian" "librarianship" "libraries" and "information" in separate searches.

do not consider those journals to be important vehicles for communicating LIS social knowledge. If this is the case, the ISI editorial bodies perceive the Australasian LIS journals to be unimportant to the process of creating new knowledge in this discipline.

In her literature review, Rochester (1996) reported a study by Herman (1991) of US and UK authors' use of international LIS literature. Using literature from 1987, Herman found that UK and US journals received 91% of the citations, and that UK authors cited articles from UK journals 50% of the time, from US journals 42% of the time, and 8% from other journals. On the other hand, US authors cited from US journals 91% of the time, from UK journals only 5% of the time, and from other journals only 4% of the time. Rochester pointed out that Herman questioned whether the parochial nature of the US journals was evidence that American authors perceived UK literature (and presumably literature from other countries) to be of inferior quality. Rochester (p. 194) noted that there have been no similar citation analyses of Australian LIS literature.

Royle (1994) used the two major citation indexes mentioned above and the *Journal Citation Reports* to study the citation of Australian journals in the sciences and the social sciences. Not surprisingly, Royle found that papers from Australian journals were cited most frequently in papers appearing in Australian journals. In commenting on the Royle study, Rochester (1996) noted that "we could expect similar findings for library and information science journals" (p. 194). In other words, LIS social knowledge created in Australia is more likely to be incorporated into new knowledge in Australia than elsewhere.

In New Zealand, Attwood (1991) examined the citations in articles published in *New Zealand Libraries* in the period from 1980 to 1990. Attwood found that the authors referred to New Zealand literature in 37.1% of their citations, more than any other nation. Material cited from United States sources accounted for 25.9% of all references, followed by Britain (16.5%) and Australia (6.0%). Material published in those four nations accounted for 85% of all references, but Australasian sources were limited to New Zealand and Australia, amounting to 43.1% of all citations.

In a research project for his MLIS degree, Rule (1998) extended Attwood's study by examining the citations in the articles in *New Zealand Libraries* from 1991 through 1997. He found that even though New Zealand material was cited 35.7% of the time, material from the United States was cited 41.4% of the time. British material was cited 9.7% of the time and Australian material was cited only 7.2% of the time. Together, those four nations accounted for 94% of the references made *in New Zealand Libraries*. Interestingly, there was a dramatic increase in the number of citations from the United States and a substantial decrease in the amount from the United Kingdom. However, the figures from Australasia were almost identical to those discovered by Attwood. In Rule's study, once again only New Zealand and Australian material was cited from Australasian sources, and their combined total was 42.9% of all citations.

Another aspect of interest in the two previous studies was the fact that the primary formats for the cited items were journals and monographs. In Attwood's study, 41.5% of references were to journal articles, followed by 31.2% for monographs, whereas Rule found that journal articles accounted for 50.1% of references and monographs accounted for 40%. Journal articles, at least in *New Zealand Libraries*, have been taking on an increasing importance in the creation of new knowledge.

With reference to the age of the cited items, Attwood found that about 50% of the items were 0-5 years old, while Rule found that almost 55% of the cited material from 1991 to 1997 in *New Zealand Libraries* were 0-5 years old. Rule's 1990s study found that only 19% were between 6 and 10 years old, whereas the 1980s study found that 25% were in this age bracket. As for the sources of the cited items appearing in *New Zealand Libraries*, both Attwood and Rule found that a very broad range of journals had been used, many of which were from outside the LIS disciplinary area.

These studies suggest that the LIS journals in Australia and New Zealand are used primarily in their own countries to help the librarians create new knowledge. The New Zealand studies also suggest that journal literature is increasingly used as a source of input for new knowledge and that the information being used is decreasing in age. Thus it is taking less time for social knowledge to impact on personal knowledge and presumably for personal knowledge to impact on social knowledge.

Content Analyses

Researchers have also studied the content of journals to determine such things as the research topics in a disciplinary area and how they has changed over time. Rochester (1995) commented that "content analysis consists of extracting and evaluating in a systematic and generally quantitative manner the occurrences of the manifest and latent content of a body of textual or audiovisual material, in order to uncover its key symbols and themes and to compare them one to another" (p. 163). With specific reference to LIS literature, content analyses have been used, for example, to determine the nature of LIS literature in general (e.g., Jarvelin and Vakkari, 1990, 1993) and in specific countries (e.g., Cano, 1999; Rochester, 1995).

The ratio of articles in LIS that are of a research nature as opposed to an applied or a practical nature has been the focus of several content analyses. Cano (1999) cites studies by Freehan et al. (1987) and Harter & Hooten (1992) as examples to support her statement that

> random sampling of the conglomerate of the L&IS journals will inevitably include applied articles as well as theoretically-based articles since a large portion of the L&IS literature is of a practical nature reflecting the problems faced by professionals engaged in current practice. (p. 675)

Freehan et al. found that 50% of the articles in their sample were of a practical nature whereas Harter and Hooten reported that 47.3% of articles in their sample of JASIS, a research journal, were of a non-theoretical nature.

Most LIS content analyses have focused on the L&IS literature produced in North America and the U.K. (Cano, 1999). Rochester and Vakkari (1998), however, reported on a series of national studies of LIS research literature conducted by different researchers who covered Finland, Spain, Turkey, Australia, China and the UK. These studies were based on the research methodology used by Jarvelin and Vakkari (1990, 1993) whose analyses of LIS literature focused only on research results and metatheoretical statements, and excluded professional writings in order to ensure that the knowledge base examined was not "pseudoscience" (Rochester and Vakkari, 1998, p. 167). Rochester and Vakkari concluded that considerable variation existed in the research emphases and trends in the examined countries due to their cultural differences, but there were also some similarities which demonstrated that cross-national interests existed (p. 173).

The Australian content for Rochester and Vakkari's international comparison was drawn from a study by Rochester (1995), who analysed the literature in *The Australian Library Journal* and *Australian Academic & Research Libraries* from 1985 through 1994. Rochester found that only 22% of the articles appearing *in The Australian Library Journal* and 27% of those in *Australian Academic and Research Libraries* were research articles (pp. 166-167). The aggregated total of research articles in the two journals was 24% of the total number of articles. When the decade was divided into two five-year periods, Rochester found that there was a 5% increase in the total number of research articles appearing in the two journals in the second period. However, the total number of articles increased overall by 33% and the percentage of research articles actually decreased from 27.2% of the total in the first period to 22.4% in the second period.

Rochester (1995) also found that the strongest area of interest in Australian LIS research was library and information services, which accounted for 40% of the total research published in those two journals. The second most popular topic was information seeking (20%), followed by library history (14%). When the research on library and information services was subdivided, the most popular subtopics were library use (10%), administration (9%) and collection studies (7%). The most popular research methods used in Australia were surveys (44%), historical methods (14%) and discussion (10%).

The situation in New Zealand has received less study. Calvert (1990) found that only 15.2% of the articles in *New Zealand Libraries* in the 1980s were research based. More recently, Rule (1998) found that from 1991-1997, the number of the research-based articles in *New Zealand Libraries* had risen to 21.7%. As Rule noted, "given these results one could say that *New Zealand Libraries* became even more hospitable to research between 1990 and 1997" (p. 9). With regard to the subject coverage of the content of the articles, Rule found that it was highly diffuse. He concluded that the diversity of topics was both a strength and weakness.

> It is this wide range of coverage that was a strength of the journal in its information provision role but it did, at the same time, limit its development in terms of being a vehicle for scholarly discourse. As one would expect information about computer-based technology, management techniques, and biculturalism were prominent and reflected technological and cultural developments during the period and the professionally-based market focus of the journal. (p. 6)

The differences found in the content analyses between Australia and New Zealand, like those between the countries compared in Rochester and Vakkari (1998), are likely due to the cultural differences and locally specific topics of interest.

Use studies

LIS researchers have employed used studies for several ends. One focus of use studies of the LIS literature has been the amount of use librarians make of the LIS literature. Rochester (1996) commented that the "findings are rather depressing, because diffusion of information to improve library and information science services is not as widespread nor international as we would wish" (p. 191). The results of a study by Finnie, Frame and Steward (2000), unfortunately, support these findings with regard to New Zealand. They found that "many librarians, because of time restraints and for other reasons, do not keep up with professional reading and may not appreciate the value of research" and that "few scholarly articles by New Zealand librarians appear in the literature, either in New Zealand or overseas" (p. 83).

A second focus of use studies has been on the actual patterns of use of the LIS literature by librarians and paraprofessionals. Montanelli and Mak (1988) examined the use patterns for LIS subjects in the journal articles requested for interlibrary loan (ILL) from the collection at the University of Illinois at Urbana-Champagne in a six month period of 1986. However, their study was limited by the fact that the most frequently read American LIS journals, *American Libraries*, *College & Research Libraries*, and *Library Journal*, were most likely available locally, and hence articles in them would not be requested through ILL. Nonetheless, one of their key findings was that "those subjects pertaining to the practical and technical aspects of librarianship were ... the most popularly requested topics" (p. 779). Thus, they concluded that "the results ... would support the hypothesis that librarians use the library literature to obtain practical and technical assistance" (p. 779).

Brown and Duguid (2000), and Davenport and Prusak (1998), likewise, comment that the staff members within an organisation learn from the stories of other staff members. Thus, papers in which professionals or researchers focus on library practices and procedures would likely be used to a greater degree by LIS practitioners to create or increase knowledge than would theoretical papers that focus on amorphous concepts or hypothetical situations.

Methodology

As a starting point, this research aims to add to the findings of Calvert (1990), Attwood (1991) and Rule (1998) regarding the content of *New Zealand Libraries,* and of Rochester (1995) with regard to the *Australian Library Journal* and *Australasian Academic and Research Libraries.* This study focuses on two different aspects of the Australasian LIS literature – the proportion of the content that is scholarly or professional and the actual topic area of the scholarly and professional papers.

As the basis for determining the nature of journal articles in their content analyses of *New Zealand Libraries*, both Rule (1998) and Calvert (1990) used a set of four categories that was originally determined by Rayward (1990). The four categories are:

1. **Practical literature:** concerned with details of systems, procedure, organisation, application; "can range from the insufferably trivial to the impenetrably complex" (Rayward, 1990, p. 127). Calvert (1990) calls this category the "How I run my library good" type of article (p. 19).
2. **Reportage** of news, description and discussion; "ranges from the trite and flip to the portentous" (Rayward, p. 127).
3. **Hortatory literature;** "is filled with 'musts,' 'oughts,' 'shoulds,' 'bewares,' 'henceforths,' and 'if we do nots' (p. 127-128); is a literature of self-congratulation and of self-recrimination" (p. 128).
4. **Scholarly literature;** "ranges from the repetitious, superficial and pretentious, through the deeply considered and meticulously researched, to mind-numbing pedantry and dullness (p. 128). According to Calvert, "this may be experimental research, survey research or historical research" (p. 19).

Rochester (1995), on the other hand, employed the classification scheme for thematic characteristics of LIS research literature devised by Jarvelin and Vakkari (1990). This scheme has 11 major classes, some with subclasses (the numbering system used here is my own):

100 The Professions
200 Library History
300 Publishing (including book history)
400 Education in LIS
500 Methodology (as the study of research methods
600 Analysis of LIS (literature based on both empirical and theoretical)
700 LIS Service Activities
- 701 Circulation or Interlibrary Loan Activities
- 702 Collections
- 703 Information or Reference Services
- 704 User education
- 705 Library Buildings or Facilities
- 706 Library Administration or Planning
- 707 Library Automation (except when concerned with some particular activity)
- 708 Other Library or Information Service Activities

800 Information Storage and Retrieval
- 801 Cataloguing
- 802 Classification or Indexing (process or languages)
- 803 Information Retrieval
- 804 Bibliographic Databases or Bibliographies
- 805 Types of Databases (Factual, textual, numeric)

900 Information Seeking
- 901 Information Dissemination
- 902 Use or Users of Channels or Sources of Information

903 Use of Library and Information Services
904 Information Seeking Behaviour (persons)
905 Information Use
906 Information Management
1000 Scientific and Professional Communication
1001 Scientific or Professional Publishing
1002 Citation Patterns and Structures
1003 Other Aspects of Scientific or Professional Communication
1100 Other LIS Aspects

Although Rochester (1995) compared the number of research articles and professional or practice-based articles in the two Australian journals, she examined the thematic content only of the research articles. To identify the research articles, she used the definition of research adopted by Jarvelin and Vakkari (1990): "research is an inquiry, where the goal is to elicit, through a systematic method, some new facts, concepts or ideas" (p. 401).

I have used Jarvelin and Vakkari's definition of research as the basis for determining the *scholarly papers* in my analysis. I categorised a paper as scholarly if the author described a systematic methodology for a planned project aimed at eliciting some new facts, concepts or ideas, or such a methodology was evident in the paper. Otherwise, the report of a project was categorised as a professional *reportage* paper. To categorise the content of the papers, I used the above list of 11 main classes and their subclasses with two additions. I added category 806 for "information networks and communication networks" and category 1101 for "information policy". Category 806 was used for papers about the Internet, intranets, subject-based information networks, etc., and category 1101 for papers on topics such as copyright or the digital divide.

Because the primary purpose of this paper is to determine how Australasian LIS journals create knowledge, it made sense to select a representative sample of the publications rather than being comprehensive. Coverage was based on a sample that for each journal consisted of one issue per year from 1991 through 2000. To ensure that there was diversity in the coverage, a different issue number was selected for each year of a publication. The following rotation was used for quarterly publications: in 1991, issue 1 was selected; in 1992, issue 2 was selected; in 1993, issue 3 was selected, in 1994, issue 4 was selected; in 1995, issue 1 was selected, and so on. For semi-annual publications, in the odd years, issue number 1 was selected, whereas in the even numbered years issue number 2 was selected. However, not all of the desired issues were procurable for each journal. Nonetheless, 93% of the desired issues were obtained and analysed. Two of the journals that I had intended to examine (i.e., *Access*, from the Australian School Library Association, and the *Malaysian Journal of Library & Information Science)*, were not available to me. The former had disappeared from the stacks of the National Library of New Zealand, whereas there are no subscribers in New Zealand to the latter publication.

The Content Analysis Findings

The results of the current study compare closely with the results of the studies mentioned earlier. For example, the percentage of scholarly papers in the current analysis of *Australian Academic & Research Libraries* and *the Australian Library Journal* is similar with those of Rochester (1995). And, the results from the current analysis of *New Zealand Libraries* are similar with those of Calvert (1990) and Rule (1998), as can be seen in Table 2 below.

Table 2: Comparison of Current Results with Earlier Researchers

Journals Analysed	Researcher	Scholarly papers	Professional Papers
Australian Academic & Research Libraries, Australian Library Review	Rochester (1995)	24.0%	76.0%
	Current study	27.1%	72.9%
New Zealand Libraries	Calvert (1990)	15.2%	84.8%
	Rule (1998)	21.7%	79.3%
	Current study	14.7%	85.3%

In the current research, the full sample contained 83 scholarly papers and 370 professional papers. The figures for the 11 journals analysed are presented in Table 3 below. This mix of professional and scholarly papers is at a ratio of approximately 4.5 professional papers (i.e., containing practical, reportage and Hortatory information) to 1 scholarly paper (i.e., providing research-based information) within the sample.

Table 3: Comparison of Number and Percentage of Scholarly and Professional Papers in Australasian Journals[6]

Journal	Scholarly & Professional Papers	Scholarly Papers	Professional Papers
AARL	71	15 (21.1%)	56 (78.9%)
ALJ	62	21 (33.9%)	41 (66.1%)
ALL	47	1 (2.1%)	46 (97.9%)
ALR	20	1 (5.0%)	19 (95.0%)
ANZJSL	23	9 (39.1%)	14 (60.9%)
APLIS	56	15 (26.8%)	41 (73.2%)
Asian L	56	8 (14.3%)	48 (85.7%)
Cat Aust	36	4 (11.1%)	32 (88.9%)
Fiji LJ	31	0 (0.0%)	31 (100%)
NZ Libs	34	5 (14.7%)	29 (85.3%)
Singapore Libs	17	4 (23.5%)	13 (76.5%)
Totals	453	83 (18.3%)	370 (81.7%)

The amount of journal *space* devoted to scholarly papers in the 11 journals, however, is greater than suggested by the number of papers in each category. This discrepancy is because, as can be seen in Table 4 below, scholarly papers tend to be over 50% longer than professional (i.e. 11.5 pages as compared to 7.5 pages). Thus, the *number of pages* devoted to the types of papers appears to be an important consideration when analysing journal contents.

[6] AARL = Australian Academic & Research Libraries; ALJ = Australian Library Journal; ALL = Australian Law Librarian; ALR= Australian Library Review; ANZJSL = Australia & New Zealand Journal of Serials Librarianship; APLIS = Australasian Public Libraries and Information Services; Asian L = Asian Libraries; Cat Aust = Cataloguing Australia; Fiji LJ = Fiji Library Journal; NZ Libs = New Zealand Libraries; Singapore Libs = Singapore Libraries

Table 4: Average Number of Pages in Scholarly and Professional Papers

Category of Paper	Number of Papers	Number Of Pages	Average Number of Pages per Paper
Scholarly	83	955	11.5
Professional	370	2782	7.5

In this study, the Scholarly content of the journals accounted for 25.6% of the journals' space, even though the number of Scholarly papers was only 18.6% of the total. The ratio here is about 3 Professional pages to 1 Scholarly page which is an increase of about 50% compared with the ratio based on the number of papers. The data for the space occupied in the 11 journals by Scholarly and Professional pages are provided in Table 5 below.

Table 5: Comparison of Number of Pages and Percentage of Pages in Scholarly and Professional Papers in Australasian Journals

Journal	Scholarly & Professional Pages	Scholarly Pages	Professional Pages
AARL	588	172 (29.2%)	416 (70.7%)
ALJ	645	259 (40.2%)	386 (59.8%)
ALL	362	12 (3.3%)	350 (96.7%)
ALR	131	8 (6.1%)	123 (93.9%)
ANZJSL	278	144 (51.8%)	134 (48.2%)
APLIS	358	163 (45.5%)	195 (54.5%)
Asian Libs	464	87 (18.8%)	377 (81.2%)
Cat Aust	387	36 (9.3%)	351 (90.7%)
Fiji LJ	241	0 (0.0%)	241 (100%)
NZ Libs	138	27 (19.6%)	111 (80.4%)
Singapore Libs	145	47 (32.4%)	98 (67.6%)
Totals	3737	955 (25.6%)	2782 (74.4%)

Topic areas and paper types

Data were gathered both for the *broad topic areas* (i.e. at the hundreds level) and the *specific topics* (i.e., at the unit level) in Jarvelin and Vakkari's (1990) classification scheme described earlier.
Among the Scholarly papers, the main *broad topic area* studied was LIS Service Activities (topic area 700) at 29.3% of papers and 29.8% of pages, followed by Information Seeking (topic area 900) at 18.3% of papers and 16.3% of pages. In the Professional papers, the main broad topic area likewise was Library Service Activities (topic area 700) at 45.9% papers and 45.1% pages, followed by Information Storage and Retrieval (topic area 800) with 21.0% of papers and 27.5% of pages. Those two areas together accounted for 66.9% of Professional Papers and 72.6% of all Professional Pages. The full range of topic areas for Scholarly and Professional papers is shown in Table 6.

Table 6: **Number and Percentage of Scholarly and Professional Papers and Pages by Broad Topic Areas**

	Scholarly		Professional	
Topics	**Papers**	**Pages**	**Papers**	**Pages**
100s The Professions	10 (12.0%)	109 (11.4%)	16 (4.3%)	136 (4.9%)
200s Library History	8 (9.8%)	103 (10.8%)	20 (5.1%)	103 (3.7%)
300s Publishing	9 (11.0%)	120 (12.6%)	10 (2.6%)	75 (2.7%)
400s Education in LIS	1 (1.2%)	12 (1.3%)	16 (4.1%)	125 (4.5%)
500s Methodology	0 (0.0%)	0 (0.0%)	2 (0.5%)	11 (0.4%)
600s Analysis of LIS	1 (1.2%)	5 (0.5%)	1 (0.3%)	8 (0.3%)
700s LIS Service Activities	24 (29.3%)	285 (29.8%)	179 (45.9%)	1257 (45.1%)
800s Information Storage & Retrieval	7 (8.5%)	73 (7.6%)	82 (21.0%)	764 (27.5%)
900s Information Seeking	15 (18.3%)	156 (16.3%)	10 (2.6%)	100 (3.6%)
1000s Scientific & Prof. Communication	5 (6.1%)	56 (5.9%)	15 (3.8%)	93 (3.3%)
1100s Other Aspects	3 (3.7%)	36 (3.8%)	19 (4.9%)	110 (3.9%)
Total	83 (100%)	955 (100%)	370 (100%)	2782 (100%)

When focussing more narrowly on the *specific topics* of the papers, four specific topics together accounted for 44.4% of the Scholarly papers and 44.0% of the Scholarly pages in the 11 journals. Similarly, four *specific topics* together accounted for 41.9% of all Professional papers and 40.8% of Professional pages in the journals. However, the four principal specific topics were different ones in each of the two categories of papers as can be seen Table 7. (Note that I added area 806 below to Jarvelin and Vakkari's topic areas because of the concentration of papers during the 1990s on "new" topics such as the Internet and intranets).

Table 7: Number and Percentage of Papers and Pages in the Four Principal *Specific Topic* Areas in both Scholarly and Professional Papers

Principal Specific Topic Areas		Scholarly		Professional	
		Papers	Pages	Papers	Pages
902	Use or Uses of Sources of Information	**10 (12.0%)**	**117 (12.2%)**	3 (0.8%)	26 (0.9%)
100	The Professions	**10 (12.0%)**	**109 (11.4%)**	15 (4.0%)	117 (4.2%)
300	Publishing (Including Book History)	**9 (10.8%)**	**120 (9.6%)**	10 (2.7%)	75 (2.7%)
200	Library History	**8 (9.6%)**	**103 (10.8%)**	20 (5.4%)	103 (3.7%)
706	Library Administration & Planning	6 (7.2%)	62 (6.5%)	**67 (18.1%)**	**443 (15.9%)**
702	Collections	6 (7.2%)	69 (7.2%)	**33 (8.9%)**	**263 (9.5%)**
700	General LIS Service Activities	4 (4.8%)	59 (6.2%)	**30 (8.1%)**	**270 (8.1%)**
806	Information and Communication Networks	2 (2.4%)	18 (1.9%)	**25 (6.8%)**	**204 (7.3%)**

Note: **Numbers (and percentages) in bold** represent the principal specific topics for the column categories.

As one would expect given the principal specific topics studied, among the 83 Scholarly papers, the most used methodologies were surveys (29 papers representing 34.9%) and historical studies (28 papers representing 33.7%). Among the 370 Professional papers, 227 were *Reportage* style papers (61.3%), 105 were categorised as *Practical* papers (28.4%), and 38 were *Hortatory* papers (10.3%).

These data inform us that the Scholarly papers in the Australasian LIS journals contained relatively high concentrations of survey research about Use and Users of Information Sources and of historical research about the Professions (primarily librarianship), Publishing, and Library History. The Professional papers, on the other hand, which were far greater in number and space occupied, were primarily Reportage articles that focused on Library Administration and Planning, General LIS Service Activities, Collections and Information and Communication Networks. The number of Practical papers amounted to less than half of the Reportage papers.

While both the Scholarly papers and the Professional papers had high concentrations in the broad area of LIS Service Activities (area 700), the concentration was much greater in the Professional papers than in the Scholarly papers. This is mainly because the content of the Professional papers extended across several specific topics included among the LIS Service Activities, whereas in the research literature the focus was mainly on Library Administration and Planning and on Collections. It was not surprising that Library Administration and Planning (topic area 706) was the most popular topic overall when Scholarly and Professional papers are considered in combination, with 73 papers, equating to 16.1%, and 505 pages equating to 13.5%, of the total numbers.

The main *form* of the Professional literature was Reportage papers (61.3% of the number and 60.7% of the pages). Reportage papers tended to provide an overview or discussion of principals and practices in these topic areas. Practical papers accounted for 28.4% of the number of Professional papers and 30.8% of the pages. The Professional papers tended to describe more specific practices or systems, usually within given institutions. Hortatory papers were only 10.3% of the number and 8.5% of the pages of the Professional papers.

The Scholarly papers and Professional papers in the Australasian LIS literature were providing LIS professionals and researchers predominantly with information of two main kinds. The Scholarly papers were helping the community to understand the uses and users of information sources, and to learn about librarianship as profession, about the publishing industry and about library history. On the other hand, the Professional papers were much more focused on practical issues. They were providing members of the LIS community with information from which they could determine trends, and could come to an understanding of current issues in administration and planning, in collection management, in LIS service activities in general, and in information and communication networks.

Other papers

The data about scholarly and professional papers, however, do not tell the whole story about Australasian LIS journals. In my analysis I found that there was a third major category of papers that earlier researchers did not identify in their analyses. I called this category *Other papers*. The content of Other papers focused primarily on delivering news about the profession's conferences and people, on informing people about new products and information resources, on reviewing books for them to help them become better professionals, and on telling them about new information resources to help them keep current. Also included among the Other papers were editorial comments, letters to the editor, and news from specific groups or areas (e.g. Publishers News, Pacific News, and State News). Table 8 below provides data for the three categories of papers in each of the examined journals and combined data for the Professional and Other papers (after all, the content in the Other category is largely a type of reportage).

Table 8: Comparison of Number and Percentage of Scholarly Papers, Professional Papers and Other Papers in Australasian Journals

Journals	Total Papers	Scholarly Papers	Professional Papers	Other Papers	Combined Professional & Other papers
AARL	93	15 (16.1%)	56 (60.2%)	22 (23.7%)	78 (83.9%)
ALJ	86	21 (24.4%)	41 (46.7%)	24 (27.9%)	65 (75.6%)
ALL	114	1 (0.9%)	46 (40.4%)	67 (58.8%)	113 (99.1%)
ALR	28	1 (3.6%)	19 (67.8%)	8 (28.6%)	27 (96.4%)
ANZJSL	30	9 (30.0%)	14 (46.7%)	7 (23.3%)	21 (70.0%)
APLIS	82	15 (18.3%)	41 (50.0%)	26 (31.7%)	67 (81.7%)
Asian Libs	73	8 (11.0%)	48 (65.8%)	17 (23.3%)	65 (89.0%)
Cat Aust	43	4 (9.3%)	32 (74.4%)	7 (16.3%)	39 (90.7%)
Fiji LJ	34	0 (0.0%)	31 (91.2%)	3 (8.8%)	34 (100%)
NZ Libs	42	5 (11.9%)	29 (69.0%)	8 (19.0%)	37 (88.1%)
Singapore Libs	19	4 (21.1%)	13 (68.4%)	2 (10.5%)	15 (78.9%)
Totals	644	83 (12.9%)	370 (57.5%)	191 (29.7%)	561 (87.1%)

The *number* of Other papers, however, is not an ideal reflection of the amount of space occupied in the journals by this category. This is because of the difficulty in determining what exactly constituted a paper for the Other category. For example, a selection of six book reviews could be counted as six papers or one

paper (I counted them as one) - whereas there was no ambiguity in determining the number of pages. As can be seen below in Table 9, the number of pages in the Other papers accounted for 27.5% of all pages in the examined journals.

Table 9: Comparison of Number of Pages and Percentage of Pages in Scholarly, Professional and Other Papers in Australasian Journals

Journal	Total Pages	Scholarly Pages	Professional Pages	Other Papers	Combined Professional & Other pages
AARL	713	172 (24.1%)	416 (58.3%)	125 (17.5%)	541 (75.9%)
ALJ	804	259 (32.2%)	386 (48.0%)	159 (19.8%)	545 (67.8%)
ALL	559	12 (2.1%)	350 (62.6%)	197 (35.2%)	547 (97.9%)
ALR	715	8 (1.1%)	123 (17.2%)	584 (81.7%)	707 (98.9%)
ANZJSL	302	144 (47.7%)	134 (44.4%)	24 (7.9%)	158 (52.3%)
APLIS	472	163 (34.5%)	195 (41.3%)	114 (24.2%)	309 (65.5%)
Asian Libs	599	87 (14.5%)	377 (62.9%)	135 (22.5%)	512 (85.5%)
Cat Aust	420	36 (8.6%)	351 (83.6%)	33 (7.9%)	384 (91.4%)
Fiji LJ	247	0 (0.0%)	241 (97.6%)	6 (2.4%)	247 (100%)
NZ Libs	176	27 (15.3%)	111 (63.1%)	38 (21.6%)	149 (84.7%)
Singapore Libs	149	47 (31.5%)	98 (65.8%)	4 (2.7%)	102 (68.5%)
Totals	5156	955 (18.5%)	2782 (54.0%)	1419 (27.5%)	4201 (81.5%)

I also conducted an analysis of the *Other Papers* category for *form* of paper, but not for topic. The largest form was Book Reviews (46 papers and 931 pages) accounting for 24.1% of Other papers and 65.6% of Other papers' pages. However, this large discrepancy between papers and pages of Book Reviews is caused by the *Australian Library Review*, which contained only 5 book reviews or 17.9% of its Other papers, but they amounted to 578 or 80.8% of its Other papers' pages. However, even after the *Australian Library Review's* Other paper content is eliminated from the data, Book Reviews still stand out as the largest form with 42.1% of the total of Other papers' pages. *News* reports came second (316 pages in 73 papers) which amounted to 22.3% of Other pages and 38.2% of Other papers. The remaining Other papers were divided among Editorials, Letters to the Editor, Information Sources and LIS Abstracts.

While this analysis of the Other papers content does not provide any startling results on its own, when the data are added to the Professional papers, the ratio of professional to scholarly papers and pages changes quite dramatically from that given earlier. With this addition of Other papers, the ratio has become 6.8 professional papers to 1 scholarly paper. This is an increase of about 50% in the ratio of Professional to Scholarly papers. With the addition of Other papers' pages to Professional papers' pages, the ratio rises from the earlier level of 3 professional pages to 1 scholarly page to a level now of 4.4 professional pages to 1 scholarly page.
This indicates that the Australasian LIS professional journals have a far greater emphasis on professional papers than on scholarly papers than was previously thought.

Conclusions
The above findings show that during the past decade the 11 Australasian LIS journals reported much less scholarly material than we have been led to believe from the findings of Rochester (1995), Calvert (1990) and Rule (1998). The results of the current research also demonstrate that the LIS journals in Australasia are predominantly conveyors of Reportage of news, description and discussion, and to a lesser extent they are communicators of Practical information pertaining to specific systems and practices. However, the

Australasian journals also convey some empirical research findings pertaining to uses and users of information sources, as well as the results of research pertaining to the profession, to the history of individual libraries and librarians, and to the publishing industry. These are the main strengths of the Australasian library journals examined in this study.

When one considers that the predominant publishers of Australasian LIS journals have been, and will continue to be professional associations, these findings make good sense. The LIS journals convey some scholarly information, but they predominantly report on what has been occurring in professional practice in the geographic location of the publishing association. They also provide resources, such as book reviews and reports about new information resources in specific areas (e.g. law librarianship, serials librarianship), and news about events, organisations and people. In other words, the Australasian LIS journals provide resources that help the members of the LIS community keep their knowledge current.

In terms of affecting knowledge creation, these journals provide an opportunity for writers and readers, among other things, to identify trends in how LIS services are, and should be, provided and managed. They help local LIS professionals and students to see how programmes (for example, pertaining to staff training or employee motivation) and systems (such as CD/ISIS) have been implemented in different situations and locations, and to understand who is using different information resources and how they are being used. That is to say, these journals are offering their readers access, in the words of Davenport and Prusak (1997), "to framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information." They are providing the readers with access to the social knowledge created by their peers, social knowledge that is related to familiar organisations and is in contexts to which the readers can relate. The fact that members of the Australasian LIS community can relate on both a professional and personal level to the content and contexts of the papers in these journals is, if we are to believe the business gurus, essential for knowledge creation and innovation in their organisations.

For knowledge creation to occur in LIS in Australasia as elsewhere, LIS professionals must be taught as students to read their professional literature and to evaluate and incorporate the pertinent components of this, their profession's social knowledge, into their own new experience and information. From this incorporation, new personal knowledge will continue to be created by LIS information professionals. This personal knowledge is the well-spring for future papers to be published, and social knowledge to be conveyed, in the Australasian LIS journals.

Nonetheless, of the 11 LIS journals examined for this paper, only five remain in print, four of which come from Australia and one from New Zealand. With the demise of 6 of the 11 professional journals examined, including those from Southeast Asia and Fiji, there is a decreasing chance for LIS journals to assist in LIS knowledge creation in Australasia's developing nations.[7] It is important for the librarians in the Southeast Asia and Oceania nations to have their own voice to discuss and to read about their own practices. There is hope, at least at the newsletter level, that the Internet may be helping their voice to grow stronger. Many of the poorest of the nations, however, do not have the telecommunications infrastructure or the information technology for members of the LIS community to benefit from the Internet as a means of communication.

A final point to bear in mind is that the Australasian LIS journals are not the primary outlets that LIS academics and professionals use to communicate their research results to a world-wide audience. This is especially true when these individuals are seeking academic or professional promotion that is tied to their

[7] Note that the *Malaysian Journal of Library and Information Science*, which was not examined in this research, is still an active publication.

publication record. In these circumstances, Australasian writers will aim to publish their papers in the mainstream American and British LIS journals.

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