Fifty years of LIS education in Australia: Academization of LIS educators in higher education institutions

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Abstract

This paper investigates the academization of library and information science (LIS) educators in Australia from 1959 to 2008. Extensive data document the distribution of these academics in Australian higher education institutions over fifty years: from a slow beginning in the 1960s, to rapid growth in the 1970s, relative stability in the 1980s, and a persistent decline from the 1990s. Results of other characteristics of Australian LIS educators over the fifty-year period are presented including: previous positions held before entering academia, what and where academic qualifications were obtained, academic positions/ranks by gender, mobility within Australian higher education institutions, and years spent as Australian LIS educators. Although there has been a steady decline in the number of Australian LIS educators since the 1990s, the level of academic qualifications and percentage with doctorates have risen, thus conforming to a major requirement of academia; however, the relative decline in junior academic positions is a worrying trend. The analysis of changed characteristics over time helps define who Australian LIS academics are, and additionally provides data that contributes to LIS academic workforce planning.

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Introduction

It has been over a half century since LIS professional education in Australia moved from teaching in libraries to teaching in higher education institutions, with the library association accrediting LIS programs rather than setting the examinations and syllabus directly.[1] The first such LIS program started in 1959 at the University of New South Wales from a *professional education perspective* rather than an *academic education perspective*. This is perhaps not surprising as the small number of academic staff initially involved in the new School of Librarianship came with years of professional practice and brought with them the previous model of courses taught by librarians for the registration certificate examinations and overseen by the (then) Library Association of Australia. Hence, the first generation of Australian LIS educators typically had undergraduate degrees, library registration qualifications or equivalent, and years of practice in libraries. In contrast, academics from more traditional areas of learning and research typically had undergraduate and postgraduate degrees including research masters and/or doctorates, and while they may have practiced before entering academia, once ensconced in higher education institutions, pursued career paths balancing the 'academic triad' of teaching, scholarship and service.[2]

Problem statement

The history and development of any discipline impact on its identity and self understanding. LIS is no exception. Looking at the development of the field reveals that while the development in individual regions, countries, schools and programs is unique, global development is informed by those individual developments. While there have been historical accounts of LIS in Australian higher education (see for example, Rochester et al., 1997), this paper builds on them with the addition of detailed empirical and up-to-date data which are used to assess the integration of LIS into the Australian academy.

A major shift in the method of educating Australian LIS professionals began in earnest in the 1960s with the movement from work-based training to education in tertiary institutions. With this shift arose a demand for a new academic workforce – LIS educators. Initially LIS academics came from practice in Australia and, less frequently, from overseas. The adjustments to the demands of academic life especially that of research and publication was extremely challenging, as most of the first generation of LIS academics entered their new roles without training or experience in research and scholarly communication; these are usually acquired through the formal training of either undergraduate baccalaureates with an additional research honors year or research masters, and more recently, through research doctorates (PhDs).

The research on which this paper is based focuses on the evolution of LIS education in Australia which includes the development of schools and programs, and the development of academics and their research activities. This paper looks at the development and transition of *LIS educators* into *LIS academics* from 1959 to 2008, through an analysis of features including: what, where and when academic qualifications were obtained; academic ranks/positions attained by gender; years spent in Australian LIS programs; distribution over time of LIS academic staff by states in higher education institutions; and previous positions held prior to entering academia. These features are studied over a 50-year period which began with rapid growth in professional LIS education, followed by a period of relative stability, and then a steady decline. This study and related works-in-progress on schools and publications are set in a parallel framework of structural changes in the Australian higher education system.

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The investigation of Australian LIS educators along these dimensions provides an opportunity to make some assessment of the assimilation of LIS academics, and by implication the LIS discipline, into the academic community. This paper should help not only Australian LIS educators define who they are but also provide a glimpse of the transition process from providing professional education to becoming an academic discipline. Furthermore, the study provides detailed information for comparison with colleagues in other countries and should contribute to LIS academic workforce planning in Australia.

Background: the Australian context

From 1959 to 2008, the Australian population more than doubled from about 10 million to over 21 million, inhabiting a vast continent of six states and two territories with nearly two-thirds of the population residing in the capital cities.[3] Students enrolled in higher education (universities) grew from over 47,500 in 1959 (ABS, 1961) to just over 1 million in 2008 (DEEWR, 2009a); while higher education (university) teaching and research staff grew from about 4,800 in 1959 (ABS, 1961) to just over 37,500 in 2008 (DEEWR, 2009b).

In 1959 the Australian higher education system had three tertiary education sectors: Universities, Technical Colleges/Institutes, and Teachers Colleges; however in the mid-1960s a *binary system* of Universities and Colleges of Advanced Education (CAEs) was mandated by the Federal government: Universities were to continue primarily focusing on research and postgraduate education while CAEs were to provide primarily vocationally-oriented education, with emphasis on undergraduate, part-time and external courses (Martin, 1964). Though a number of CAEs were created *de novo*, many of the former Teachers Colleges were upgraded to, absorbed into, or merged with CAEs. From the start, CAE educators began the process of 'academic drift' by modeling themselves on universities, especially in the acquisition of formal qualifications and participation in research and publication activities (Harman, 1977).[4] Most of the Australian LIS programs started in CAEs during the expansion period of the late 1960s to the late 1970s.[5] The Australian economy began to contract in the mid-1970s and so too did funding for higher education. In the late 1980s another government reform mandated a *unified system* whereby all higher education institutions would become universities (Dawkins, 1988). In 1989 there were 19 universities in Australia; however, by 2008 the number of universities more than doubled (40) through mergers, amalgamations and designations of almost all higher education institutions as universities.[6] As a result, all LIS programs were in universities from the early 1990s.

Related literature

This section highlights recent global trends on aspects of LIS education generally and LIS academics specifically, by geographical regions starting with Australia. The focus is on studies presenting detailed empirical data, generally derived from surveys or statistics from professional LIS bodies. Although other journal papers, conference proceedings and monographs exist which discuss various aspects of LIS education and educators, the selected few provide an introduction to the global picture and references to earlier documents. Additional topical sources are referred to in the *Discussion* section below.

***Australia*:** A snapshot of Australian LIS academics was based on responses from 23 (of 62) members of the Australian Information Studies Educators Forum (ISEF) to an online questionnaire for information on educational qualifications and professional development activities (Smith, 2006). In 2006 there were only 64 LIS academics in 10 Australian universities; the questionnaire response rate represented over a third of this cohort and the

gender ratio was near parity: 11 females and 12 males. Of the 23 respondents, 10 females and 7 males were 51 years or older and no male was over 60 years of age. Of the 12 (52%) who had PhDs, seven were males; another six or 26% (three of each sex) were pursuing PhDs. The academic ranks of the 23 respondents were: one Professor, 11 Senior Lecturers, nine Lecturers, and two others (an adjunct and a senior research fellow).[7]

A recent book chapter by Hallam and Calvert (2009) supported the findings by Smith (2006) and Hallam (2007) as well as summarizing the major issues in Australian LIS education: *too many* LIS programs staffed by *too few* LIS academics competing for *too few* students, resulting in a steep decline in numbers of LIS educators from 130 to 64 over a ten-year period (1996 - 2005). Furthermore, LIS academics are 'greying' and recruitment of new academics within Australia with minimum academic qualifications was difficult as the PhD remained a 'relatively scarce commodity' in the Australian professional LIS culture.

***North America*:** Information on 56 LIS schools in the U.S. and Canada offering accredited degree programs in 2005-2006 from ALISE (2009) listed 828 academics with nearly equal numbers of males and females; a mean of nearly 15 academics per LIS school, with a range of five to 41 academics of which nearly 91% have PhDs (from 60% in three schools to 100% in 26 schools). White (1998), manipulated data from an earlier ALISE report to elucidate characteristics of the 'best' LIS programs and to gauge the overall health of LIS education in North America. For example, he showed how faculty size was a predictor of 'subjective esteem', the larger the faculty, the higher the ranking. As faculty size is an important characteristic for LIS programs, two trends were evident from the KALIPER (Kellogg-ALISE Information Professions and Educational Renewal) project: firstly, a rise of joint appointments in LIS with, for example computer science and business; and secondly, a reliance on adjuncts and teaching assistants for many of the courses taught. These trends may see an increase in the hiring of 'boundary spanners' or academic staff (temporary or otherwise) who can teach in more than one program to allow the expansion of specialist LIS programs with appropriate faculty teaching expertise (Marshall et al., 2000).

To address a growing gender divide between information-science oriented male educators versus library-science oriented female academics (Gorman, 2004), Dillon and Norris (2005) used the ALISE statistical data for faculty gender ratios from 1975 to 2003. Although there was a near 60:40 male to female ratio from 1975-1976 until about 1985-1986, it has been near parity since 1993-1994 with slightly more (52%) females in 2004-2005 and 2005-2006 (ALISE, 2009). Further analysis of the ALISE statistical data for gender ratios by positions/ranks resulted in 'near parity' ratios in 2002-2003 for assistant/associate professors with numbers favoring females and a 60:40 male to female ratio for deans/directors and full professors.

Europe: The numerous culturally diverse countries in Europe often have very small LIS programs with from only two to four permanent teaching staff members; however some south-east European countries (Croatia, Bosnia, Hercegovina and Slovenia) have from ten to 25 academic staff in LIS programs which are often combined with other disciplines such as, comparative literature (Kajberg, Horvat & Oğuz, 2009). Of the estimated 200 LIS schools in Europe, nearly two-thirds have fewer than 20 academic staff and over one-fourth have fewer than 10. Typically academic staff numbers were from 11-20 and that of students from 50-500 (Borup Larsen, 2005).

The list of *Departments and Schools of Information Studies, Information Management, Information Systems, etc*. (2010) provide web links to 11 LIS schools in the UK and 31 links to LIS school websites in 15 other European countries. Lowe (2006) discussed the vulnerability of small LIS programs in 14 British universities with some having as few as six

academic staff and only about 50 students; larger schools have about 25 academic staff and around 500 students. Um and Feather (2007) identified accredited LIS programs in 16 departments and schools in the UK; most are small with the largest schools having about 20-25 academic staff.

Based on 2001 data, the top-10 best performing 'library' countries were: Finland, Denmark, Estonia, Iceland, UK, Norway, Slovenia, Sweden, Lithuania and Ireland/Netherlands (Kajberg &Koren, 2009). This finding correlated in part with a study of research publications by LIS academics from five of 11 LIS schools in three of four mainland Nordic countries: *Finland* (one with 30 and another with 15 academics), *Denmark* (one school only with 70 academics) and *Sweden* (one with 50 and another with 6 academics). The research publications of LIS academics in three LIS schools of the fourth Nordic country, *Norway* (as well as one other LIS school from Finland and two others from Sweden) were not analyzed (Åström, 2008). Another top-10 'library' country, *Iceland*, recently celebrated the 50th anniversary of its sole LIS department; in 2006 there were about 500 students, but only three full-time academics and 10 part-time teachers (Gunnlaugsdóttir, 2006).

***Africa*:** Most LIS educators in over 55 LIS schools in Africa generally have PhDs and are suitably qualified for appointments in academia; however, uncompetitive remuneration within the academic sector has resulted in a scarcity of qualified candidates. Generally most LIS teaching units are small averaging about six and ranging from three to about 24. Since senior positions such as full professors are not readily available in small teaching units, LIS academics wishing to advance their careers either leave academia or join university administrative units (Onyancha & Minishi-Majanja, 2009).

Asia: In 17 Asian countries with about 370 LIS schools, few LIS educators have PhDs and therefore, few PhD programs exist to train LIS researchers and educators. India, the Philippines and China account for over three-fourths of the LIS schools with 167, 72 and 44 schools, respectively. Traditionally, countries in this populous and culturally diverse region have sent their LIS educators for advanced studies to the U.S., U.K. or Australia. However, as Asian universities develop into 'world class institutions', regional collaborations for professional LIS education and training are developing (Khoo, Majid & Lin, 2009).

Latin America: The Latin American countries have few post-graduate LIS masters programs and even fewer doctorate programs. Not only are there few students in these programs; there are even fewer educators, since to conduct classes at these levels, PhDs are required (Gallardo, 2009). The 1999 data used showed that for 17 Ibero-American countries, there were 128 LIS programs offered at levels from technical post-secondary to post-graduate doctorate; Argentina had 56 programs, followed by Brazil with 24 and Mexico with 13. The most common LIS degree program was the undergraduate baccalaureate and accounted for over two-thirds of all teaching activities. There were only five institutions with tertiary-graduate programs and only three countries offered programs at the doctorate level. Most LIS educators with PhDs studied in the U.S., the U.K. or Spain.

***Middle East*:** Faculty members in most of the Asian Arab countries, comprising the Middle East geographical region, are required to have PhDs; and in eight LIS programs of six Gulf Cooperation Council (GCC) nations, there were 110 academics ranging from nine to 21; the largest faculty had 700 students (ur-Rehman, 2009). An earlier survey showed that 49 (of 65) responding faculty members from six LIS schools in the GCC nations had the following characteristics: mean age was about 49 years; mean number of teaching years was just over 13; all had PhDs earned from Western countries; and most had weak research and publication records with only four having publications in English and about one-third with four or more papers in Arabic (al-Ansari et al., 2001).

Although this brief overview may under-represent certain geographical areas, Abdullahi's (2009) recent edited monograph on global LIS and the other selected studies mentioned above should provide glimpses of LIS education and LIS academics worldwide.

Method

Sources consulted and data obtained were initially from Australian tertiary/higher education annual academic calendars or handbooks in print, microfiche (ATHCOM, 1980-2004) and online. Selection of institutions was guided by the Australian Library and Information Association (ALIA) Course Recognition Reports (1979-2004) and Annual Returns (1991-2005) from tertiary institutions offering ALIA accredited LIS programs.[8] Although consulted, the Commonwealth Universities Yearbook (1974-2001) provided information only for senior academic staff (Professors and Associate Professors) in universities. Directories of LIS professionals by Kosa (1968, 1979, 1984, 1990); brief biographies of LIS educators by Reid-Smith (1976, 1978, 1985, 1994); ALIP 1 (1994) and ALIP 2 (2001) were particularly useful in providing some of the qualifications, ranks and previous positions held by Australian LIS educators. In addition, numerous other sources were consulted including: journal articles and news items in Australian LIS journals; Australian institutional and LIS program brochures; monographs on Australian libraries, librarians and librarianship; and more recently, online Australian LIS schools' newsletters and web blogs. Most of the source data were less complete and reliable for the early years as programs emerged, and in the most recent years as programs declined, closed or were absorbed into larger academic units.

While all available relevant data were recorded for each year, some of the analyses were in five-year or ten-year intervals. There was also some compression of data undertaken in correlating and displaying, for example, the number of LIS staff in academic ranks by the number of years in Australian LIS institutions by states/territory.

General methodological problems include determining dates for institutional name changes and/or closures of LIS programs; changing and differing listing practices for academic staff in handbooks and/or calendars; conflicting listings in different media with often poor quality of microfiche sources and lack of 'permanency' in e-sources; uncertainty about dates for which staff lists were valid; and other institutionally related issues.

Specific methodological problems relate to data on LIS academic staff and include, for example: variant names; identification of LIS educators among listings of staff from broader academic units; differentiation among teaching academics, researchers with limited teaching responsibilities, administrative (only) academics and other academics (e.g., adjuncts, fellows, visitors, emeriti); counting of part-time, casual or shared academics; inclusion of guest lecturers from other educational areas or from libraries; and exclusion of LIS educators on secondments, job exchanges or extended leave. Australian academics span a range of ranks from tutors to professors and employment modes from full-time to casual. (See footnote 7 above for equivalence of Australian ranks to those in the U.S. and other countries.) Different institutions, especially in earlier years, have different nomenclature for ranks (e.g., lecturers A-E or lecturers I-III; tutors/senior tutors or associate lecturers). More recently, LIS academics may take up teaching in other areas, or vice-versa (non-LIS academics may teach in LIS programs); this is most likely when LIS programs are absorbed or in decline. Finally, as Harvey (2001) noted, 'Australian library schools do not publish readily available consumer information' to clearly identify LIS academic staff.

Perhaps not surprisingly, there were gaps in coverage over the years as well as discrepancies in sources. Hence, a great deal of cross-checking between and among sources was undertaken in order to compile as complete and accurate as possible a picture of Australian LIS academic staff. Procedures for counting academic staff throughout the institutions and over the span of 50 years were applied as consistently as possible; furthermore, to ensure that 'all' LIS educators were counted each year, a generous counting method was adopted initially and followed by a more stringent count of academics with more than two years in academia. Excel spreadsheets were used to store and manipulate the data for the production of tables and figures, and assistance in the analysis and presentation of results.

Results

LIS academic staff numbers

There were 693 academics in LIS programs throughout Australian higher education institutions from 1959-2008 with from one to 37 years of service for a total of 4711 staff-years (Figure 1). Also shown is the yearly distribution for 382 academics who were in academia for more than two years. There was a sharp rise in the *growth* period of the 1970s peaking in 1978 with 167 academics; the numbers fluctuated through the 1980s, but by the early 1990s the *decline* started and in 2008, there were only 64 academic staff and even fewer (58) with more than two years in academia.

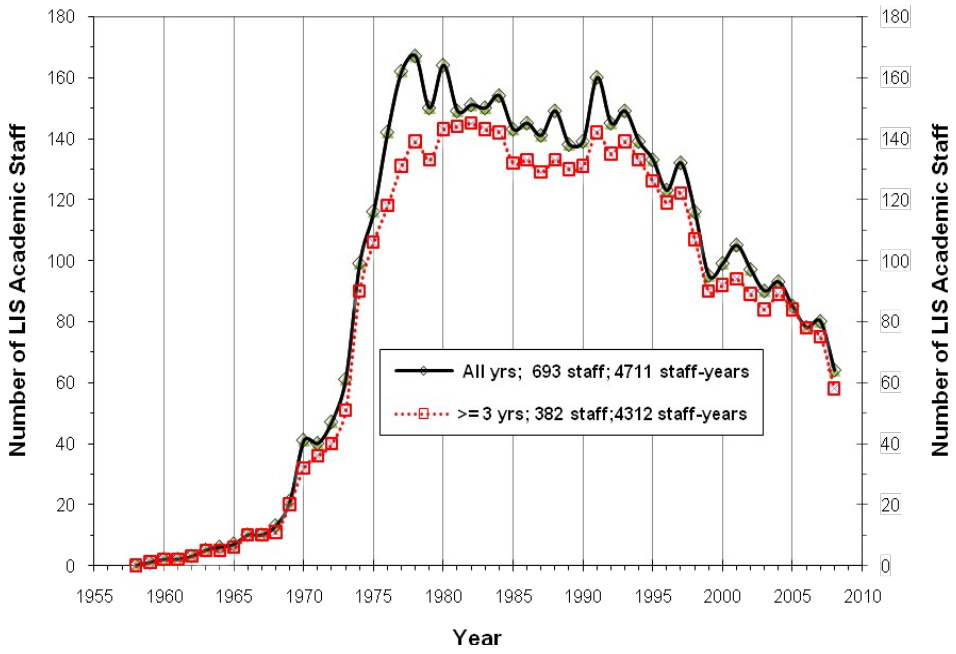

Figure 1. Number of LIS academics and staff-years in Australian institutions: 1959-2008.
(Staff-years = Σ of years in academia of each academic)

Nearly one-third (223) of LIS educators stayed for just one year; of the remaining two-thirds, most (174) served from five to 24 years; and 25 worked (or are still working) from 25 to 37 years (Table 1). About 45% of the staff worked one or two years and contributed less than 10% of staff-years; while 55% were (or are still) in academia for more than two years

and contributed over 90% of staff-years. For all 50 years, the average number of years in academia was nearly seven.

Table 1. Number and percentage of academics serving in a range of years and staff-years in Australian LIS programs: 1959-2008.

Range of years in academia	Academic staff		Staff-years served	
	No.	%	No.	%
1	223	32.2	223	4.7
2	88	12.7	176	3.7
3 - 4	88	12.7	293	6.2
5 - 14	174	25.1	1536	32.6
15 - 24	95	13.7	1766	37.5
25 - 37	25	3.6	717	15.2
Total	**693**	**100.0**	**4711**	**100.0**

Figures 2a and 2b show the growth and decline of academic staff in the six Australian states and one territory: New South Wales (NSW), Victoria (Vic), Western Australia (WA) and South Australia (SA) in Figure 2a; and Queensland (Qld), Tasmania (Tas) and the Australian Capitol Territory (ACT) in Figure 2b. Of the more populous states, Victoria's growth in the 1970s was spectacular with a high of 70 academics in five LIS programs in 1980; however its decline thereafter was precipitous. In 2008 both Victoria and NSW each had two LIS programs with 23 academics in NSW and 17 in Victoria; WA had two LIS programs and 11 academics. Queensland reached a high of 21 academics in three LIS programs in 1977 but declined to eight academics in two LIS programs in 2008, and the sole LIS program in the Australian Capitol Territory (ACT) closed in 2005 (Figure 2b).[9]

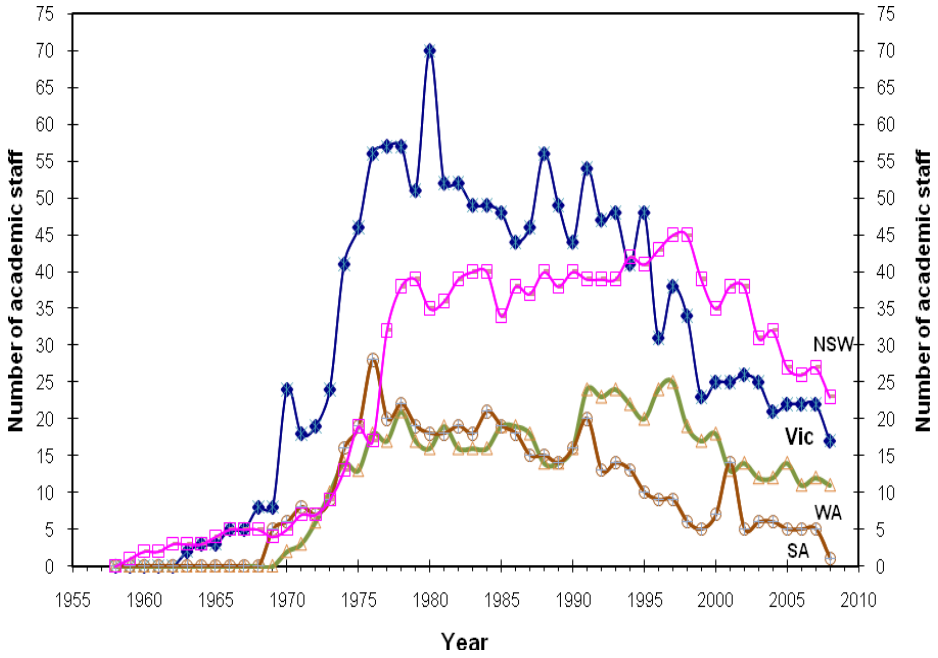

Figure 2a. Number of LIS academic staff per year (NSW, Vic, WA and SA): 1959-2008

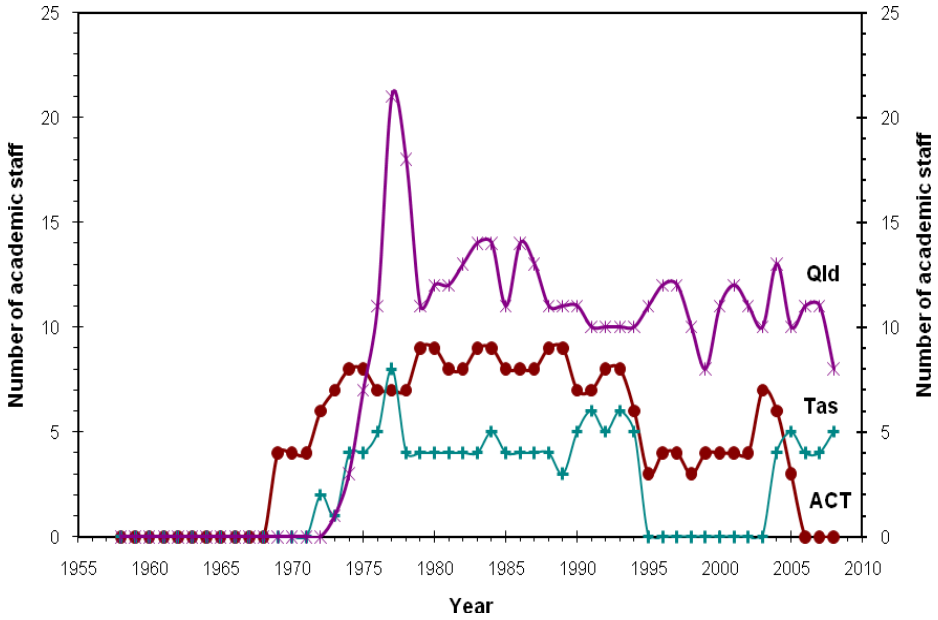

Figure 2b. Number of LIS academic staff per year (Qld, Tas and ACT): 1959-2008

For selected years from 1960 to 2008, the mean (or median) numbers of academic staff never exceeded ten (the highest was 9.6 (9.0) academics in 1980); furthermore, most (from 50% in 1995 to 100% in 1960 and 1964) LIS programs had fewer than ten academics (Table 2). In only two cases were there LIS programs with from 25 to 29 academics: one LIS program each in 1975 (28 academics) and 1980 (27 academics). In the 1960s and from about 1980 to 1999, the distributions are normal; hence the mean and median numbers of academic staff in LIS programs are equal or nearly equal; however the distributions of the other years are skewed so that the means are greater than the medians.

Table 2: Number of academic staff in LIS programs for stated years: 1960 to 2008

Year	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2008
Total number of academic staff	2	7	41	116	164	143	139	133	100	86	64
Total number of LIS programs	1	2	7	18	17	16	16	14	11	12	10
Academic staff range:	**Number of LIS programs with academic staff ranges per stated years**										
1-4	1	2	3	11	1	2	1	2	2	3	2
5-9	0	0	3	4	9	7	9	5	4	6	6
10-14	0	0	0	2	4	7	5	5	4	2	1
15-19	0	0	1	0	2	0	1	2	1	1	1
20-24	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	1	1	0	0	0	0	0	0
Mean	**2.0**	**3.5**	**5.9**	**6.4**	**9.6**	**8.9**	**8.7**	**9.5**	**9.1**	**7.2**	**6.5**
Median	**2.0**	**3.5**	**5.0**	**4.0**	**9.0**	**9.0**	**8.0**	**9.0**	**8.0**	**6.5**	**5.5**

LIS academic staff mobility

Most (614) LIS academics were in one higher education institution and only 79 were in two, three or four institutions; 18 of the 79 staff moved involuntarily due to institutional closures, transfers or mergers (Table 3). Staff in multiple institutions contributed on average

considerably more years (13 to 18 years) in LIS programs than those in only one institution (nearly six years).

Table 3. LIS academic staff movement in Australian institutions: 1959-2008

Number of LIS institutions	Academic staff		Mean number of years in academia	Range of years in academia
	No.	%		
1	614	88.6	5.9	1 - 37
2	66	9.5	13.3	2 - 34
3	9	1.3	18.3	11 - 29
4	4	0.6	16.8	11 - 23
Total	**693**	**100.0**	**6.8**	

The numbers of academic staff who never moved, those who moved voluntarily or involuntarily within states/territory, and those who moved inter-state/territory are shown in Table 4. Victoria, with from one to five LIS programs over the 50-year period had a total of 240 academic staff; 207 (86%) never changed institutions, 17 moved within Victoria and 16 moved to either another state or territory. Tasmania, with only one LIS program had the fewest number of academics (28) with eight moving out-of-state. Furthermore, a large number of academics in all states and territory remained in either the same geographical location and/or in one institution only.

Table 4. Mobility of LIS academic staff in higher education institutions in Australian states and territory: 1959-2008

Australian states and territory	Number of academic staff who:			Total over the 50-year period
	never changed institution	moved within state	moved between state or territory	
Victoria (**Vic**)	207	17	16	240
New South Wales (**NSW**)	147	10	20	177
Western Australia (**WA**)	96	5	7	108
South Australia (**SA**)	68	14	4	86
Queensland (**Qld**)	49	2	5	56
Australian Capital Territory (**ACT**)	27	[a]	6	33
Tasmania (**Tas**)	20	[a]	8	28

[a] ACT and Tasmania each had one LIS program.

LIS academic staff positions

In analyzing staff positions for the 50-year period, some compression of the first four ranks in Table 5 was undertaken to co-locate earlier designations of positions (e.g., principal lecturer, reader, director) and various grades within positions (e.g., senior lecturer II, lecturer III, lecturer A) with current terminology. Table 5 provides the best interpretation of data provided by the numerous sources consulted; it indicates the current Australian academic positions for the first four ranks: professor, associate professor, senior lecturer and lecturer

(see also footnote 7 for equivalent ranks in the U.S. and other countries). The Australian ranks, senior tutor and tutor, have now been replaced by the positions associate/assistant lecturers; these are the near equivalent of the U.S. designations of teaching assistants.

Table 5. LIS academic staff and staff-years in Australian institutions by positions: 1959-2008

Position	Academic staff		Staff-years served	
	No.	%	No.	%
Professor	19	2.7	135	2.9
Associate professor	38	5.5	330	7.0
Senior lecturer	105	15.2	1057	22.4
Lecturer	364	52.5	2550	54.1
Senior tutor	26	3.8	144	3.1
Tutor	85	12.3	239	5.1
Unspecified & other	56	8.1	256	5.4
Total	**693**	**100.0**	**4711**	**100.0**

Throughout the 50-year period over one-half (364) of the positions were occupied by lecturers, followed next by senior lecturers (105). There were 56 staff with either unspecified or 'other' positions; the latter comprising 194 staff years and consisted primarily of the following positions: adjuncts, visitors and honoraries of varying ranks, such as honorary visiting professor or adjunct senior teaching fellow. Figure 3 highlights the declining trend in the lower positions (Lecturers) since the mid-1970s accompanied by rising trends in the other positions (Senior Lecturers and the combined positions of Professors and Associate Professors).

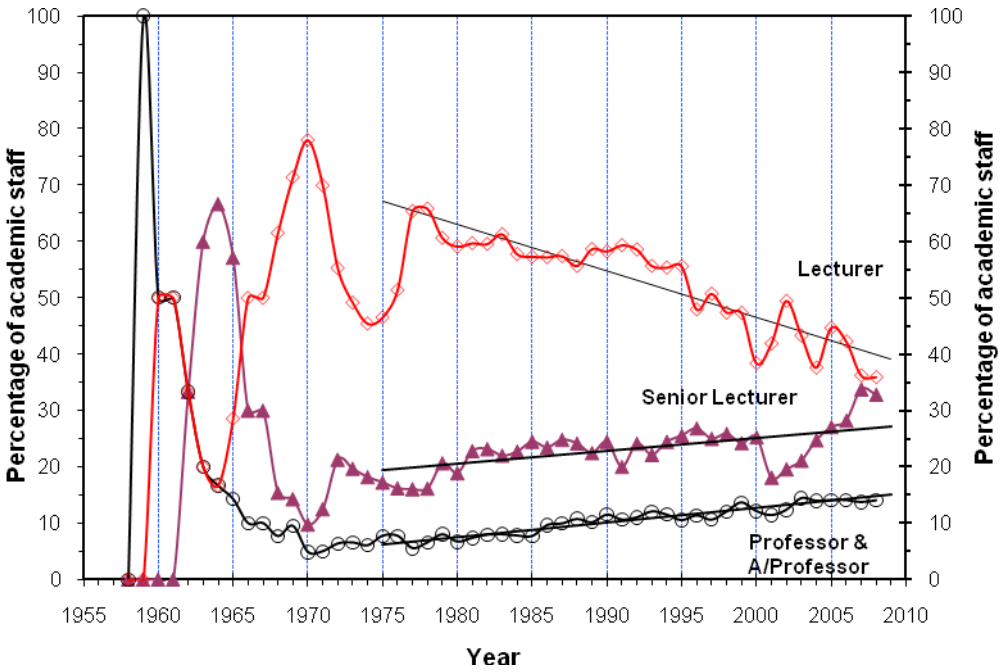

Figure 3. Percentage of LIS academic staff positions per year (1959-2008) and trend lines (1977-2009)

Table 6 relates the number of years served in LIS programs by the number of academic staff in various positions. Academics serving few years in academia were more likely to be at

the lower positions (lecturer and senior tutor/tutor) along with 'others' who were generally transients (e.g., adjuncts or visitors). The senior lecturer position is the top rank achieved by the average LIS academic serving at least 15 years in academia.

Table 6. Number of LIS academic staff by positions and years in academia: 1959-2008

Position	Years in Academia							No. of academic staff
	1-2	3-4	5-9	10-14	15-19	20-24	>= 25	
Professor	1	1	3	3	6	2	3	19
Associate professor	3	2	6	5	8	8	6	38
Senior lecturer	9	5	23	20	24	10	14	105
Lecturer	163	62	66	35	22	14	2	364
Senior tutor & tutor	88	15	6	1	1	0	0	111
Unspecified & other	47	3	6	0	0	0	0	56
Total	**311**	**88**	**110**	**64**	**61**	**34**	**25**	**693**

LIS academic staff gender

Of the 693 academic staff, the gender of 661 could be determined: 416 (63%) females and 245 (37%) males.[10] The 416 females account for 58% of the total staff-years (2718 of 4666) while the males, 42% staff-years (1948 of 4666). Although fewer in numbers, male academic staff on average remained in academia longer than females: nearly 8 years (1948/245) for males and 6.5 years (2718/416) for females.

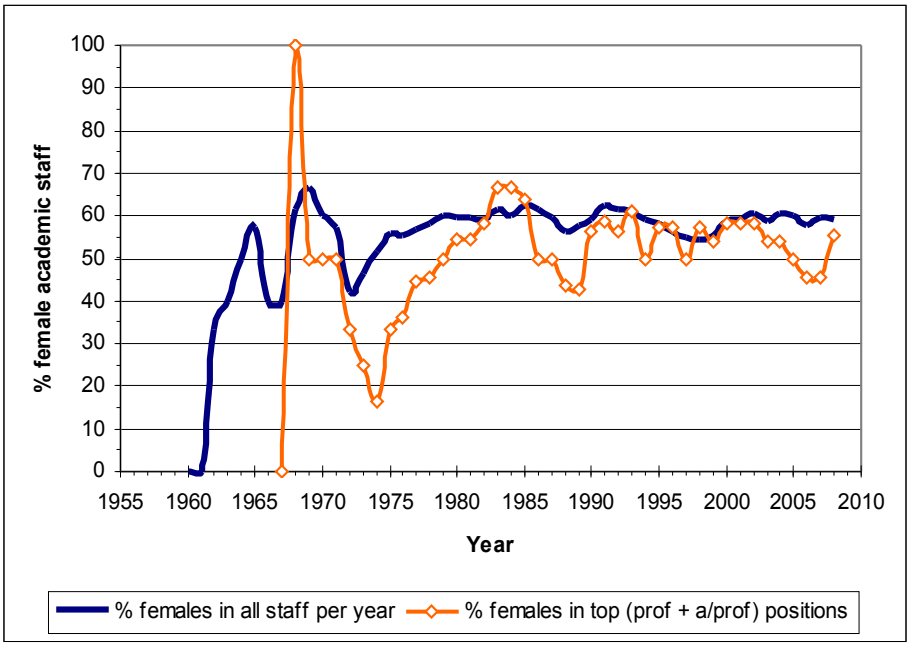

Figure 4. Percentage of female academics in top two positions: 1959-2008

Female academics in top positions. Of the total of 465 staff-years in the top positions of professor and associate professor (see Table 5), females accounted for 239 (51%), somewhat lower than the overall female percentage of 58% staff-years. Figure 4 shows the percentage of females in top positions for the 50-year period. Although there was one male since 1959 in the top positions, the first female did not appear until 1968. In only a few years

(1983-1985 and 1993) did female academics surpass 60%; overall they accounted for less (51%) than their overall percentage of staff-years. On the other hand, there were fewer males overall (245 for 37%) but proportionally they served more staff-years in the top positions (226 for 49%).

LIS academic staff qualifications

The qualifications of Australian LIS academic staff were recorded every five years from 1964 to 2004 (Table 7). For nearly all (693) academic staff, qualifications were available; for example in 1984, qualifications for all but three academics (149, excluding visitors) in 16 LIS institutions were obtained from a variety of sources. Some academics were included repeatedly in successive five-year periods, often with increasing qualifications; these would be long-serving academics (see Table 1) pursuing Masters or PhDs degrees during employment as LIS educators.

The qualifications analyzed include: Baccalaureates in all forms including those in LIS and no distinction was made for Honours[11] awarded with the degree; Masters in a variety of designations with no distinction made between coursework and research Masters; Doctorates mostly PhDs with a sprinkling of others (DLS, ThD, JUDr). In some cases, baccalaureates were inferred when only Masters and Doctorates were given.

Table 7. Academic staff with qualifications in Australian LIS Programs in five-yearly intervals: 1964-2004

Year	Academic staff				No. of LIS institutions
	No.	No. excluding visitors	No. with qualification data	% with qualification data	
1964	6	6	6	100.0	2
1969	16	16	16	100.0	3
1974	99	99	99	100.0	15
1979	149	149	148	99.3	17
1984	154	152	149	98.0	16
1989	138	136	135	99.3	16
1994	139	139	138	99.3	15
1999	94	94	92	97.9	11
2004	93	93	88	94.6	12
	888	**884**	**871**	← **Column Totals**	

Figure 5 shows the percentage of staff with each of the three qualifications in five-yearly intervals. For 871, the total number of staff (excluding visitors) with qualification data (Table 7), 855 had one or more Baccalaureates, 490 had at least one Masters and 165 had one or more Doctorates. With few exceptions in the 1970s and 1980s, all staff had Baccalaureates; those with Masters have been rising steadily from nearly 17% in 1964 to just over 78% in 2004; and those with Doctorates first appearing in 1974 (5%) have risen to nearly one-half (46%) by 2004. A recent update of the number and percentage of doctorates held by Australian LIS academics in 2008 showed a further rise to nearly 63% (see Table 8 below).

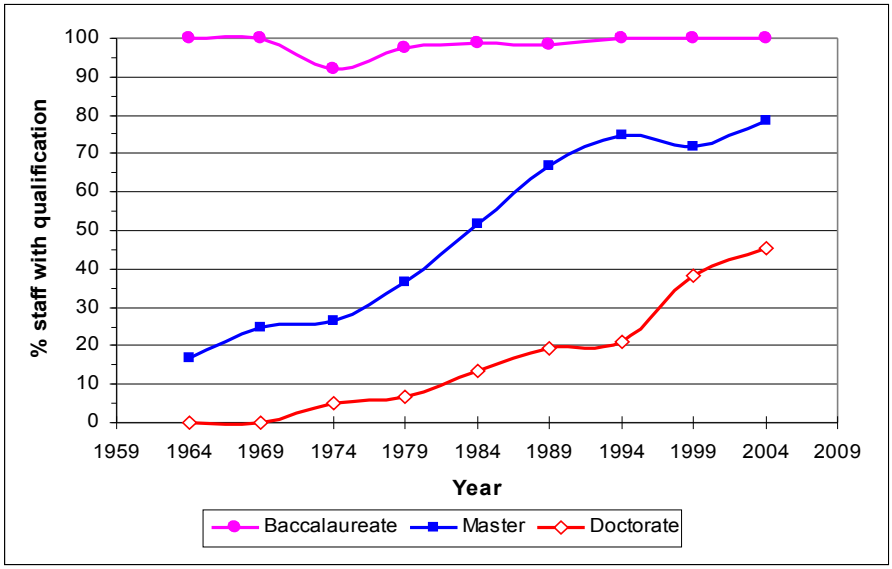

Figure 5. Percentage of staff with qualifications: Baccalaureate, Master or Doctorate in five-yearly intervals: 1964-2004

Qualifications by awarding countries: Baccalaureates. For the 855 academic staff with one or more baccalaureates over all five-yearly periods, a total of 934 baccalaureates were awarded, of which 864 were identified by the awarding countries; and of these, 620 (73%) were from Australia. In Figure 6a Australia's percentage share ranged from about 88% (with 6 awards) in 1964 to 70% (59 awards) in 2004. Most of the Australian baccalaureates in the earlier years were from either the University of Melbourne or the University of Sydney (two of the oldest universities in Australia). By 2004, however, nearly 60% of the awards were from other (more recently established) universities. The number of different Australian tertiary institutions awarding baccalaureates ranged from two in 1964 to 26 in 1994, when 102 awards were obtained. The remaining baccalaureates (244) were from the USA, UK and other institutions overseas.

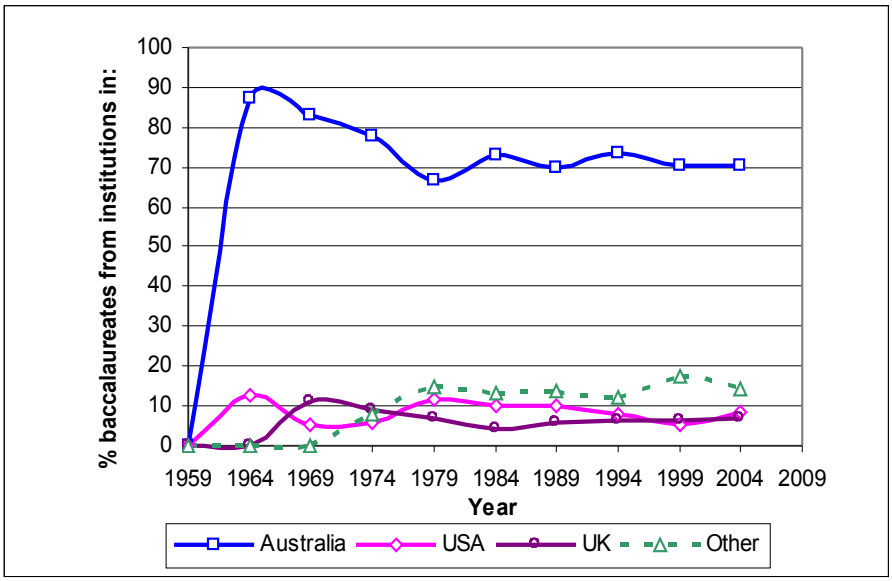

Figure 6a. Percentage of Baccalaureates from Australia, USA, UK and other countries in five-yearly intervals: 1964-2004

Qualifications by awarding countries: Masters. For the 490 academic staff with one or more masters over all five-yearly periods, a total of 581 masters were awarded, of which 571 were identified by the awarding countries. Of the 571 known masters, 343 (60%) were

awarded from 21 Australian tertiary institutions and of the 343 awards, 66 (19%) were from the University of New South Wales (UNSW) and 48 (14%) from Monash University in Victoria. Both UNSW and Monash offered LIS Masters in research and coursework from the late 1960s (UNSW) and late 1970s (Monash). The other Masters awards (228 or 40%) came from the USA (116), the UK (72) and other countries (40). Figure 6b shows the percentage distribution in each five-yearly period; Australia's share increased in the 1980s and 1990s from 50% to nearly 80%.

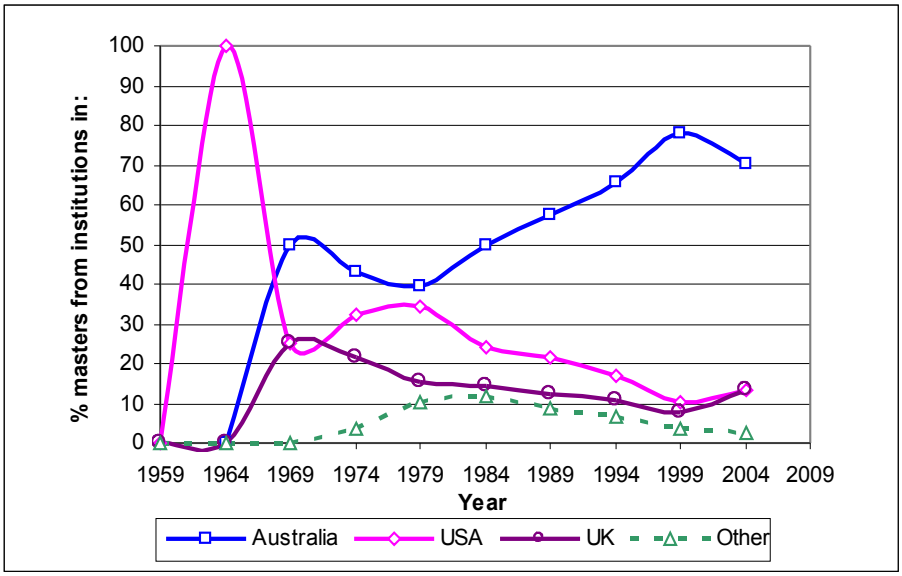

Figure 6b. Percentage of Masters from Australia, USA, UK and other countries in five-yearly intervals: 1964-2004

Qualifications by awarding countries: Doctorates. For the 165 academic staff with one or more doctorates over all five-yearly periods, a total of 168 doctorates were awarded and all were identified by the awarding countries; of these, 99 (59%) were awarded from 17 Australian tertiary institutions. Of the remaining 69 doctorates, 39 were from the USA, 12 from the UK and 18 from other countries. With growing numbers of doctorates from 1989 to 2004 (26 to 42), Australia's share has grown from 42% to 81% (Figure 6c). In 1979 when the USA's share was 50%, there were only 10 academics with doctorates.

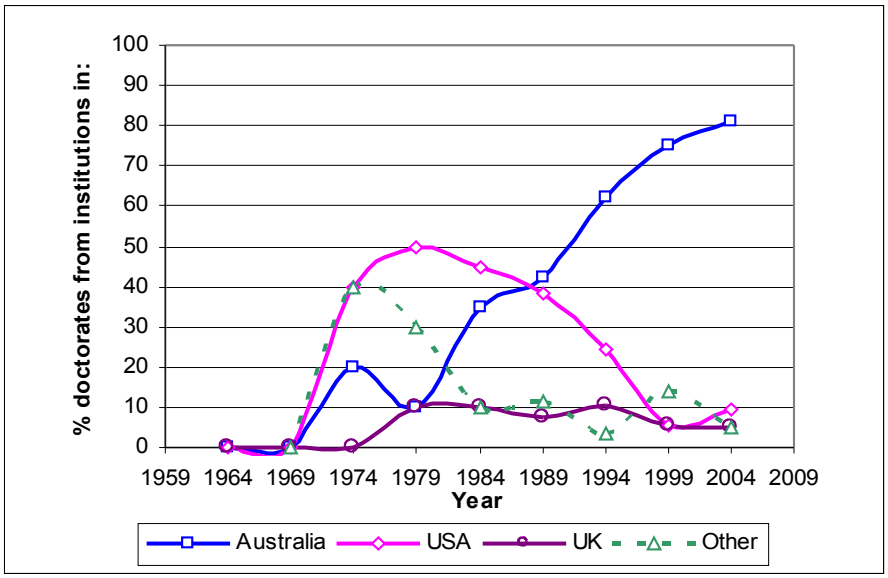

Figure 6c. Percentage of Doctorates from Australia, USA, UK and other countries in five-yearly intervals: 1964-2004

Table 8 shows that it was sometime in the early 1970s before LIS academic staff in any position had doctorates; however, the percentage has been increasing from about 5% in 1974 to nearly 45% in 2004; an update ('with doctorates' only) of the 64 academics in 2008 showed a further rise to about 63%. A five-yearly analysis of the percentage of academic staff at various academic positions shows that by 2004, all six LIS academics in the professorial rank had at least one doctorate, five of seven (71.4%) associate professors had doctorates as did 13 of 23 (56.5%) senior lecturers, 9 of 34 (26.5%) of lecturers, and one of six (16.7%) senior tutors/ tutors (Figure 7 and Table 8).

Table 8. Number of LIS academic staff with doctorates by academic positions in approximately five-yearly intervals: 1964-2008

Year	Total number of academic staff:			Number of academic staff with doctorates in positions:				
	Analyzed by positions	With doctorates		Professor	Associate professor	Senior lecturer	Lecturer	Senior tutor & Tutor
		No.	%					
1964	6	0	0.0	0	0	0	0	0
1969	35	0	0.0	0	0	0	0	0
1974	95	5	5.3	0	1	2	2	0
1979	146	9	6.2	0	2	4	3	0
1984	146	20	13.7	0	3	11	6	0
1989	132	26	19.7	2	6	11	6	1
1994	134	28	20.9	4	5	11	7	1
1999	81	30	37.0	4	4	12	10	0
2004	76	34	44.7	6	5	13	9	1
2008*	***64***	***40***	***62.5***					
** Only number of doctorates for the 64 academics in 2008 was analyzed.*								

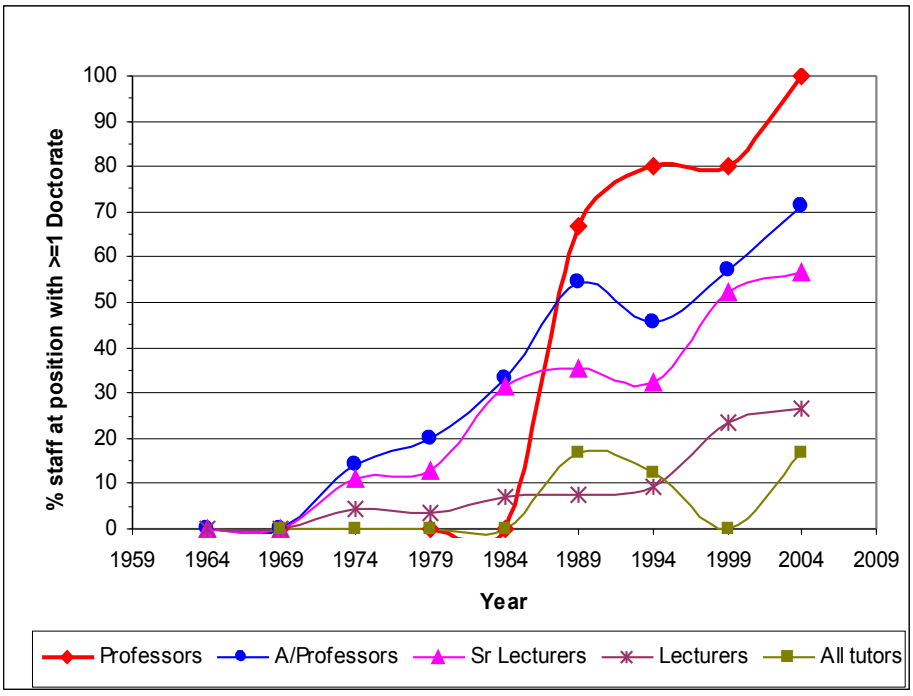

Figure 7. Percentage of LIS academic staff with doctorates by academic positions in five-yearly intervals: 1964-2004

Previous positions of LIS academic staff

The analysis in ten-yearly periods of previous positions held by staff before entering academia is restricted to those with at least two years of service in LIS education (382) and for whom data on previous positions were obtainable (281). Extensive compression of organizational types resulted in categories presented in Table 9. Over one-third (104) were practicing information professionals in college and university libraries; a further one-fifth (57) came either as academics from educational institutions including 19 from LIS programs, 11 from education programs, 15 from various other academic programs, or from academic administrative units. In the third and fourth organizational types, 51 came from city, state or national libraries and 50 were from primary or secondary schools. Considerably few were from commercial libraries or other organizations such as museums.

Table 9. Previous positions of academic staff with >=3 years service in Australian LIS programs in approximately ten-yearly periods: 1959-2008

Organizational types	**1959-'69**	**1970-'79**	**1980-'89**	**1990-'99**	**2000-'08**	**Total**
Tertiary libraries	10	51	26	13	4	104
Tertiary educational	3	24	16	6	8	57
Government libraries	7	18	14	7	5	51
Primary/secondary educational	1	29	10	7	3	50
Commercial	0	3	6	4	0	13
other	0	1	4	1	0	6
Total	**21**	**126**	**76**	**38**	**20**	**281**

Approximately 80% (224) were from Australia with the greatest share from the two most populous states: Victoria (64) and NSW (49). The other 20% were from overseas and most came from the UK (18) and the USA (16). Most (from 57% to 100%) of the academics in Australian institutions with LIS programs were from their home states or territory with the exception of Charles Sturt University in NSW where over one-half (56%) were from overseas or from Australian states other than NSW.

Discussion

LIS academic staff size. Downward trends in numbers of academic staff from 1996 to 2005 are evident in Figure 1 and in earlier reports (see for example, Hallam, 2007). In contrast, LIS faculty numbers in North America increased slightly during the same ten-year period (ALISE, 2009).There was also a downturn in the combined Australian LIS student enrolment numbers for masters students and undergraduates during the same period: from 3,343 in 1996 to 2,350 in 2005 (ALIA, 2010). Consequently, the overall LIS student-staff ratios went up roughly from about 25:1 to 37:1. The student-staff ratios for all universities in Australia went from nearly 16:1 in 1996 to 20:1 in 2005 and the teaching workloads increased by about one-third (Hugo, 2005; 2008), though much greater in the LIS sector. Coates et al. (2009) noted that between 1989 and 2007 total Australian university student numbers more than doubled while teaching staff increased by only 19% (excluding casuals) and the student-staff ratio rose to just above 22:1 in 2007.

LIS programs with fewer than five academics appeared in all years from 1960 to 2008 (Table 2). Over 20 years ago, Rayward (1989) noted, *inter alia*, the perils of small-staffed LIS programs; a few years later Rochester (1992) provided comments from Australian Heads of LIS programs such as: *too many library schools, each of which is too small*; *five is the minimum number of full-time academics to provide a good educational environment*; *ten is the minimum staff number*; and *there is a lack of understanding of the role of academics in universities by the LIS profession*. Maguire (1996) noted reasons for the poor rating of LIS in *The Good Universities Guide* – small numbers of LIS students and academic staff, among others. Pawley et al. (2001) discussed the issue of 'critical mass' with all but two of 12 LIS programs having fewer than ten academics. Harvey (2001) noted that one crude measure of the quality of LIS programs is the number of academic staff and according to White (1998), the larger the faculty, the higher the ranking among LIS schools in North America. Harvey and Higgins (2003) remarked on the comparatively large number of Australian LIS programs per capita and suggested a national approach for LIS education in Australia.

In addition to the vulnerability of closures or mergers, there are other issues and challenges accompanying small-staffed LIS programs, some of which have been discussed in the extensive literature of LIS education nationally and internationally. In Australia, even in LIS programs with over ten academics, there are difficulties in establishing research clusters within LIS programs, as research interests tend to be fragmented and academics largely work alone or with colleagues from other academic units or from overseas.[12] Furthermore, a small staff generally means little or no mentoring can be offered to new staff; some difficulty is experienced in preparing time-consuming grant proposals; and there is scarce opportunity to build subject expertise. In teaching, academics often need to adopt eclectic approaches to cover wide areas of the LIS landscape; this generally leads to difficulties in establishing and melding expertise in teaching and research interests, so that research can inform teaching and teaching can enrich research.

LIS academic staff-years. The transient nature of nearly half (311) of the LIS educators who spent only 1-2 years in academia (Table 1) may be explained in part by the largely feminized workforce (63% females) and reasons offered by Probert (2005) for 'unequal outcomes in academic careers': for example, family responsibilities and more generally demographic changes such as separation and the impact of older children's needs. Another explanation may lie in the growth of casual (hourly paid) teaching staff among Australian academics during the last two decades, comprising from 13% of all teaching staff in 1989 to just over 22% in 2007 (Coates et al., 2009). Although many of the transient LIS educators may have decided that academia did not suit, some were likely aspiring academics desirous of full-time positions. Junor's (2004) study of nearly 2,500 casual general and academic staff showed that only 28% of casual academics (as opposed to 40% of casual general staff) preferred casual employment; most wanted either contract (possibly three years or more) or preferably continuing (with the possibility of tenure) employment to maximize financial and academic benefits not readily available to casuals (see also Coates et al., 2009).

On the other hand, the number of long-serving LIS educators support the ageing issue of Australian academics (see for example, Hugo, 2008) and more specifically the LIS sector nationally (see for example, Hallam, 2007) and internationally (see for example, al-Ansari et al., 2001). Genoni (2005) posited that some of the educators who joined LIS programs during the expansion and growth period (late 1970s to 1980s) 'still remain'. These educators would be among staff with 20 or more years in academia (Table 1). Hugo (2008) anticipates that universities will face 'their largest recruitment task' over the next 10-15 years with many academics retiring.

LIS academic staff mobility. The picture of LIS academics by states/territory highlights the growth period (1976-1978) when there were 19 LIS programs with 15 in the populous states: five in Victoria, four in SA and three each in NSW and Queensland (Figures 2a & 2b). Similar demographic trends (as above) apply to the lack of mobility among Australian LIS academics (Table 4). Academics, especially those in Victoria and South Australia who moved inter-state did so largely because of program closures and mergers. Some academic mobility is generally desirable to foster intellectual exchange, establish collaborative networks, and increase scholarly activities.

LIS academic staff positions. Over the 50-year period, the percentage of Lecturers (53%) was over three times that of the distant second, Senior Lecturer with 15% (see Table 5); however after the growth period of the 1970s, the yearly percentages of the two positions show a different picture: a steady declining trend in the Lecturer position and a slow rising trend for Senior Lecturers, such that in 2008 there were proportionately nearly as many Lecturers (36%) as there were Senior Lecturers (33%), and only 14% were Professors/Associate Professors (see Figure 3). However, for all Australian university teaching and research staff of 37,522 in 2008, just over 33% were Lecturers, about 24% were Senior Lecturers, and nearly 25% were 'above Senior Lecturers' – that is, Professors/Associate Professors (DEEWR, 2009b). A combination of a shrinking workforce, an ageing population and a steady declining trend in the Lecturer position in LIS programs is not conducive to the development of the next generation of LIS academics. Although Hugo (2008) predicts 'heavy attrition' of Australian academics over the next two decades (due to the retirement of the 'baby boom' generation), recruitment of LIS academics will not proceed unless LIS programs develop sufficiently to attract future students through offerings of quality teaching and research.

Unlike the total Australian academic population, female LIS academics in senior positions (Professor and Association Professor) are proportionally well represented. In 2008 there were over three times as many males (ca. 8,000) as females (ca. 2,600) in all Australian universities, representing nearly 11% of the total academic population (DEEWR, 2009b). As there were more female (63%) than male (37%) LIS academics, Figure 4 indicates a continuing gap between the percentage of female LIS academics and the percentage in senior positions. However, based on two large-scale studies of Australian academics, Probert (2005) pointed out that the presence of a 'glass ceiling' or institutional discriminatory practices in, for example, academic promotions, are no longer evident; rather, complex issues related to the 'impact of the household' are increasing.

LIS academic staff qualifications and background. Tracking the career path of LIS academics through the acquisition of their qualifications and promotions shows similarities to an earlier study of over 1,000 UNSW academics (Probert, 2005). One-half (of 194) of the female academics began their careers in academia at Level A (equivalent to Assistant/ Associate Lecturers or Tutor/Senior Tutors); 23% as Research assistants and only 25% at Level B (Lecturer). On the other hand, nearly 40% (of 349) of males started their academic careers as Lecturers; only 34% at Level A and nearly 7% as Senior Lecturers. More interesting is the gender divide in the qualifications held at the start of academic careers: only 12% of females had PhDs, contrasted with 38% of males. Nearly one-half (47%) of females had baccalaureates (26% with honours) and 28% had masters (nearly equally divided between coursework and research). Just over one-third of the males started with baccalaureates (18% with honours) and 21% had masters (just over 10% research masters). In a feminized field such as LIS, progression to the senior ranks of Professor and Associate Professor would be slower than in the more traditional (and male-dominated) fields.

The relationship between position or rank and attainment of PhDs is clearly shown in Figure 7: by 2004, all LIS Professors had PhDs, as do most (71%) of the Associate Professors and over half (57%) of the Senior Lecturers. The 2008 analysis is even more encouraging showing a rise from 45% of all LIS educators in 2004 having PhDs to 63% in 2008. Over 30 years ago, Whyte (1978) wrote that increasingly PhDs will be necessary for academic appointments in universities and furthermore, academics asked to supervise and examine doctoral dissertations must themselves possess PhDs. Finally, the increase of higher degrees (masters and doctorate) obtained in Australia as opposed to overseas, especially from the UK or the USA (see Figures 6b, 6c) is not surprising as the number of top-ranking Australian universities has risen steadily from the 1980s onwards.

It is also not surprising that early LIS educators had fewer PhDs than those currently employed. An examination of the previous positions of Australian LIS academics show that initially most came from tertiary or government libraries and few from tertiary educational organizations (see Table 9). Even now in Australia, PhDs are not valued by professional librarians, not even those in academic libraries (see for example, Macauley, 2004; Hallam, 2007). As more LIS educators enter academia through the more conventional academic channel, and as more professional librarians, especially those who teach information literacy in higher education institutions, heed Macauley's (2004) challenge to match the doctoral degree qualifications of academics, then Australian LIS may finally be an 'academic discipline' (Whyte, 1984).[13]

Conclusion

This paper has provided a detailed analysis of LIS academics in Australia over a fifty-year period from 1959 to 2008. A brief overview of the current state of LIS education and educators globally was presented, followed by methodological problems encountered in consolidating data from a wide range of sources stretching over five decades. Based on considerable processed data, the paper introduced results on the number of Australian LIS educators over 50 years; analyzed the number of staff working in LIS programs in different states and territory over time and their academic qualifications as well as professional experience before entering academia. The distribution of LIS academics over the various academic positions was also addressed, and finally, the study provided the years spent in academia as LIS educators along with their mobility within Australia.

In the last fifty years, LIS education in Australia has moved from a vocational to an academic model (Audunson, 2007). Many of Australia's first generation LIS educators have conformed to the requirements of academia by developing research and publication skills first through the acquisition of PhDs, and thereafter through continuing scholarly pursuits. This arm of academia must be balanced with teaching future LIS professionals, some of whom will become future LIS academics, and participating in university and LIS professional service. While nearly all early LIS educators had baccalaureate degrees when they commenced their careers, higher academic qualifications like research master and doctorate degrees were sparse. However, over the last fifty years the percentages of LIS academics holding such degrees have increased steadily, keeping pace with the overall increase in these higher degrees among all Australian university academics. However, as many doctoral studies are often undertaken during tenure as LIS educators, other research activities and publications of scholarly works may be delayed for some years. Hence, there is still a need to focus on the academic arm of research and research publication which is the subject of a forthcoming paper.

For LIS, in Australia as elsewhere, to be recognized as a profession, LIS education needs to continue to be offered in universities, alongside the education of other professionals, such as medicine and law, social work and nursing. LIS academics in Australia therefore need to demonstrate conformity with the requirements of academia by developing their research skills through research training. Completing a PhD is only the introduction to research and publishing; whereas, continuing further research and publishing, teaching future LIS professionals and LIS academics, and participating in professional and university activities constitute the purpose of LIS academics.

Given the small population size of Australia, the relatively small numbers of student enrolled in LIS programs, and the generally accepted view that larger schools are more likely to be able to support all facets of academic life (quality teaching, learning, research and service); it is highly likely that there are too many LIS programs in Australia. Based on the data presented here and given the current staff and student numbers, ideally fewer programs with larger academic staff would suit Australian LIS education in the 21st Century. Finally, although there is a downward trend in the numbers of LIS academics over the last 50 years, there has been a steady academization as demonstrated by the increasing number of research degrees and with this, a greater acceptance within the university environment.

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Footnotes

1 The generic acronym LIS indicating 'Library or Librarianship' and 'Information or Knowledge' and 'Science, Studies, Services or Management' is used variously in Australian higher education institutions. Academic staff, academics or educators are terms used in Australia to denote the faculty members in higher education. LIS programs refer to teaching units which are variously called departments, schools or programs and can be freestanding within parent institutions or, more recently, part of larger academic units. A paper in preparation will investigate the scholarly publications of the same Australian LIS educators over fifty years to gauge additional aspects of the academization process.

2 This professional education perspective is shared with fields such as social work, the teaching and health professions which also have had difficulty in establishing their positions in academic institutions; particularly those with a strong research focus (see for example, Fejgin, 1995; Maurana, et al., 2001; Murray & Aymer, 2009; Newland & Truglio-Londrigan, 2003).

3 The six states, two territories and their capitals in parentheses are listed in decreasing population order: New South Wales (Sydney), Victoria (Melbourne), Queensland (Brisbane), Western Australia (Perth), South Australia (Adelaide), Tasmania (Hobart), Australian Capital Territory (Canberra), and Northern Territory (Darwin). The last three (one state and two territories) are considerably smaller than the first five states; see, for example, http://www.business.nsw.gov.au/aboutnsw/labour/C4_pop_estimates.htm, retrieved March 15, 2010.

4 See also Kyvik (2009) for a general discussion on the establishment of new higher education institutions (in part) through the upgrading of professional and vocational schools into higher education institutions, including academization issues such as, 'drifts' among students, academics, programs and institutions.

5 A paper in preparation will document, inter alia, the growth and decline of LIS programs in Australian higher education institutions over the same 50-year period.

6 For information on Australian tertiary or higher education, see: http://www.deewr.gov.au/HigherEducation/Pages/default.aspx and http://www.universitiesaustralia.edu.au/documents/publications/stats/Highlights.pdf, retrieved March 15, 2010.

7 Australian academic ranks approximately equivalent to those in the U.S. and other countries are: Professor and Associate Professor ≈ Professor; Senior Lecturer ≈ Associate Professor; Lecturer ≈ Assistant Professor; and Associate Lecturer/Lecturer Level A ≈ Lecturer/Teaching Assistants (see for example, http://www.hr.unsw.edu.au/employee/acad/criteria.html, retrieved March 15, 2010).

8 ALIA reports and returns from LIS schools/programs/courses over the years were made available and perused by the first author.

9 Australia's second territory (Northern Territory) did offer LIS distance education programs; however, the content of the programs were developed by other tertiary institutions: Kelvin Grove CAE in Queensland in 1978 and Charles Sturt University in New South Wales in 1992. Members from the Northern Territory institutions (initially, Darwin Community College, then Northern Territory University, and now Charles Darwin University) were appointed to oversee the programs and the students. South Australia closed its LIS program in 2007; however an online LIS program was developed in 2008 in another school (Computer and Information Science) at the University of South Australia and received ALIA accreditation in November 2009. Tasmania's LIS program was closed in 1995; however in 2003 another LIS program was offered in partnership with Edith Cowan University in Western Australia. An online LIS program was re-introduced in 2009 at the University of Canberra in the ACT. For current listings of LIS accredited programs, see http://www.alia.org.au/education/courses/librarianship.html, retrieved March 15, 2010.

10 The remaining 32 academic staff contributed 45 (of 4711) staff-years and on average were in academia only for 1.4 years (45/32).

11 The Australian tertiary institutional awards follow the British system where Baccalaureates are generally of three-year duration in the Arts and Social Sciences; completion of a fourth-year consisting of a research component is designated as a Bachelor's degree with Honours.

12 Although this cross-disciplinarity or inter-disciplinarity approach to research has great appeal, especially in the current ICT environment, pressures of managing the other two arms of academia (teaching and service) with few staff remain problematic.

13 Over 25 years ago, Whyte (1984, p.261) wrote that "Librarianship is an academic discipline but at present it occupies a basement in the house of intellect" and that it "will climb upstairs when it can present a more firmly based tradition of scholarship, more certain and significant research findings ...".