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Knowledge management education in Australia

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Introduction

Knowledge Management (KM) has been with us now for over a decade. Since the publication of Marianne Broadbent’s much-cited paper in *Australian Library Journal* (1997) it has been a hot topic in library and information services (LIS) literature and at LIS conferences, with repeated calls for the profession to engage more with KM and by anecdotal evidence that significant numbers of LIS professionals have moved into the KM domain. Occasionally one still hears or reads the comment that KM is a passing management fad (for example, see Loughridge 1999) but it is more common to come across the view that KM is very much here to stay. This was one of the conclusions of KPMG’s *European Knowledge Management Survey 2002/2003*: ‘The 2002/2003 survey shows that knowledge management is approaching a higher maturity level. The majority of respondents indicate knowledge as a strategic asset.’ It is fair to say that KM is not going away in the foreseeable future. There is no shortage of KM conferences and workshops, typically charging fees that are beyond most LIS professionals; there are active KM forums in ACT, New South Wales, Victoria and Queensland; KM courses are offered by no less than nine Australian universities; and in October 2005 Standards Australia went so far as to publish a KM Standard (AS 5037–2005).

This paper surveys the formal KM courses currently offered in Australia. It is a part of a wider project by Charles Sturt University’s Community of Scholars, ‘Matching Users with Information’, which seeks to establish the state of knowledge of KM among LIS professionals, the extent to which they are finding positions in the KM sector, the extent to which they are practising identifiable KM processes in their work in the LIS sector and whether they are receiving the educational preparation and/or professional development opportunities required to practise KM. Here the focus is the content of KM courses in Australia and the extent to which the understanding and skills developed by students of these programs overlap with those which the Australian Library and Information Association (ALIA) requires as core knowledge and skills for the LIS sector. The paper also reviews other attempts to identify the core skills and understanding required in the KM field, including the recent Australian standard.

LIS professionals and KM

The myth of the LIS professional as the ultimate Knowledge Manager has dogged some of the LIS literature and conference discourse for several years. Librarians are ideally placed to take on such a role of knowledge manager, it is suggested, because they have been managing knowledge from time immemorial (Butler 2000, p.40; Corrall 1999; Townley 2001, p.53). As recently as the 2005 Information Online conference, one of the keynote speakers, a non-librarian (Andrews 2005), exhorted librarians to take their information management skills and move into the knowledge management domain, while the introductory paper in IFLA’s 2004 collection,
Knowledge Management: Libraries and Librarians Taking up the Challenge, claims that KM is one of those concepts that librarians take time to assimilate, only to reflect ultimately ‘on why other communities try to colonise our domains’ (Hobohm 2004, p.7). In the same book, Michael Koenig, a keen KM proponent, claims that the ‘obvious’ solution to the failure of so many knowledge management systems to match up to companies’ expectations is to import librarians to provide user education and training (2004, p.140).

Behind the rhetoric of knowledge management as ‘souped-up’ librarianship, however, there has been a constant theme, namely that KM requires a multi-disciplinary approach. In a paper in Australian Library Journal, Cathie Koina questions whether librarians are really ‘the ultimate knowledge managers’ and points out that what librarians have done for many years is Information Management, which, contrary to what many librarians believe, is not the same as Knowledge Management (2003, p.270); a point taken up in the 2004 ALIA Biennial Conference (Ferguson 2004). Patricia Milne embraces the hyperbole in her reference to librarians (2000, p.149) as the ‘ultimate knowledge workers’, but also talks about LIS professionals forging partnerships with others in the KM ‘domain’. Similarly Ross Todd and Gray Southon, who have written widely on the subject, go so far as to stress the distinction between KM, ‘which involves the co-ordination of a broad range of professionals and disciplines, led by a professional of very high-level skills, and the enriched role of the information professional within a broader knowledge management program’, stressing the need for the latter to ‘develop their role in co-operation with other professionals’ such as their IT, HR, strategic management and customer relations colleagues (2001, p.322). More recently, Suliman Al-Hawamdeh (2004, p.605) refers to the expansion of the roles of information professionals ‘to include other forms of knowledge activities—tacit and implicit knowledge in the form of skills and competencies’, but adds the qualifying statement: ‘Such skills and competencies require a multidisciplinary approach and cannot be catered for by one single discipline.’

Here it is worth noting that the term KM appears to have several distinct meanings, which vary according to the disciplinary tradition and practice from which they derive. Indeed, a 2002 review by Hlupik et al, identified eighteen distinct definitions of Knowledge Management (Bouthillier & Shearer 2002). Many in the LIS community are familiar with Tom Wilson’s views on the misuse, as he sees it, of the term ‘tacit knowledge’ by leading proponents of KM and his suggestion that KM is typically repackaged Information Management (Wilson 2002). The widespread view in the LIS sector that librarians have been practicing KM for a long time, to which reference was made earlier, stems from the profession’s emphasis on documentary forms of knowledge. In the information systems area, however, the focus is the facilitating technologies and systems while, for the human resources people, it is people. A glance at the long list of KM ‘enablers’ in the new Australian Standard, drawn as they are from IM (in its various guises), HR, and Information Systems and Technology, demonstrates the inter-disciplinary nature of KM (a point taken up in the following section).

The profession’s enthusiasm for KM can be attributed in part to Broadbent’s equation of KM with Information Management (IM) plus organisational learning, which may have led some to see KM as an at least partial ‘resurrection’ of familiar LIS processes and procedures (Rehman & Chaudry 2005). Even were the LIS profession to be the
main player in the IM domain (which it is not), however, the latter part of Broadbent’s
equation is a field that is unfamiliar to all but the most senior of LIS professionals.
Here we are very much in the realm of HR, a point made by Michael Middleton a few
years ago, when he described KM as ‘a combination of information management (IM)
for managing the documentary form, and HRM for managing the expression of
professionals have the “core” information management skills required to manage
knowledge once it becomes “explicit” (i.e. to identify, catalogue and maximise the
visibility and availability of the products in which knowledge is stored)’ however, ‘the
great challenge’ is to manage the ‘tacit’ – in other words, the embodied knowledge
that is drawn from the social, experiential and embodied experience of practitioners in
the practice of work and which cannot be adequately captured or represented in ways
that are considered meaningful to knowledge intensive organizations (Ferguson et al.
2005).

The sheer scale of the tasks associated with KM makes it unlikely that the LIS
professional could be expected to play a leading role in any KM initiative. We would
suggest that the intellectual capital that knowledge managers are meant to be
leveraging (or giving value to) goes far beyond the documentary forms to which the
LIS profession has been accustomed.

KM skills and attributes

One of the most influential studies of KM skills and attributes to be undertaken in the
LIS sector, ‘Underpinning Skills for Knowledge Management’ (initiated by the UK’s
Library and Information Commission in 1998 and awarded to TFPL), found, among
other things, ‘significant overlap between recognized management competencies and
those required for successful knowledge practitioners’. What is more, Angela Abell,
Project Director of the TFPL study, points out (2000, p.35):

KM skills are essentially those most often associated with change and
project management. The ability to influence attitudes, to work in
complex organisations, cross boundaries, and navigate political waters is
characteristic of KM players. Teams and communities are also common in
KM approaches, making team-building skills, consensus development,
and community understanding increasingly important.

Clearly this requires a degree of corporate involvement that has not in the past been
typical of the LIS profession – although many special librarians, who pride
themselves on keeping in touch with their organisations, might contest that view.
Nonetheless, Abell’s list of ‘KM enabling skills and competencies’ (taken from
Figure 1, 2000, p.36) does suggest that KM activities go well beyond many library
and information services:

- Business process identification and analysis
- Understanding the knowledge process within the business process
- Understanding the value, context, and dynamics of knowledge and information
- Knowledge mapping and flows
- Change management
- Leveraging ICT to create KM enablers

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• An understanding of support and facilitation of communities and teams
• Project management
• Information structuring and architecture
• Document and information management and work flows
• An understanding of information management principles
• An understanding of information technology opportunities.

Are LIS students graduating with these skills and competencies? Despite cautionary words from others (Abell 2000; Milne 2000; Todd & Southon 2001; Al-Hawamdeh 2004), Charlotte Breen et al. (2002) conclude from their research that they do. Using the TPFL findings as their basis for skills requirements, Breen and her colleagues conducted surveys of LIS schools in Britain and Ireland, ten LIS graduates in Ireland and twenty companies, in order to establish ‘whether graduates with LIS training are perceived as having the requisite skills and personalities to perform as knowledge managers and information managers in the private sector’ (2002, p.127). Their conclusion is that ‘LIS graduates are being equipped with the requisite skills to organise online information and manage knowledge’, adding, however, that what stands in the way of LIS graduates and the KM sector is ‘the stereotypical view of the “librarian” … Graduates with LIS skills need to market themselves more effectively’ (2002, p.131).

Here perhaps one should distinguish between managing knowledge and being a knowledge manager because it seems to us that the latter, judging by the TPFL findings and Angela Abell’s comments, is a developmental role, which goes way beyond mere management of knowledge (however that is defined) and involves bringing about significant changes in organisational culture. It is worth pointing out that the TPFL study, which was based on interviews and consultations with five hundred international organisations, found that there was very little evidence of involvement of information professionals in KM implementation at a strategic level, that they ‘lacked business understanding, breadth of required experience, and the needed mindset’ and that they ‘were more concerned with external information and to some extent the management of records and documents’ (Rehman & Chaudhry 2005).

To what extent this has changed is yet to be established, but it is worth recalling that, as recently as the 2004 ALIA biennial conference, Biddy Fisher, on ‘Workforce skills development’, listed five areas requiring significant activity, according to the research – KM was up there with project management and project skills, user focus and support, leadership and management, and strategic thinking.

In Britain, the Department of Information Science at Loughborough University followed up the TPFL case studies with a survey of job advertisements and follow-up surveys of employers and recruitment agencies. Experience and skills required included the following ranked list: 1. Relevant industrial experience; 2. Interpersonal skills; 3. Highly developed oral/written communication skills; 4. Project management skills; 5. Team player; 6. Change management; 7. Analytical skills; 8. Ability to work to strict deadlines/prioritisation skills; 9. People management; 10. Training skills; 11. Negotiating skills (Morris 2004, p.120). Other skills, competencies and experience identified covered the categories: educational requirements (which included significant interest in degrees in information or library related subjects); personal attributes; knowledge management skills; LIS/IM skills/experience; and IT skills. It is
worth noting that ‘many of the job advertisements expressed the need for candidates to have practical experience in knowledge management or awareness of the importance of knowledge to the development of an organisation’, supporting the TPFL findings, and that ‘Experience of using KM development tools was also considered to be important.’ Nonetheless, ‘Many of the skills listed in the advertisements were LIS related’ (2004, p.121).

In Australia, Edith Cowan University’s School of Computer and Information Science went through a similar process of market research and consultation, in which it investigated the contribution that the LIS discipline could make to KM. The researchers concluded that there was strong support for ‘Knowledge Computing’, especially Internet Technologies, Knowledge-Based Systems, Groupware and Workflow, Intranets/Extranets, Web Development, Electronic Document Management and Recordkeeping, and for KM Foundations, such as Knowledge Taxonomies, Knowledge Maps, Intellectual Capital and KM Roles. There was also strong support for management orientated subjects (described as ‘Knowledge Management in Practice’), for instance, Organisational Behaviour, Change Management, Project Management, Teams, while Information Science respondents were ambivalent towards Information Organisation and Information Retrieval. The sample consulted (librarians, IT professionals, records managers) was ‘positively disposed toward KM’, the majority (two-thirds) believing ‘their career would benefit from KM study’. These findings helped inform ECU’s model for post-graduate study, which drew subjects from its School of Computer and Information Science, Communications and Multimedia and its School of Management Information Systems (Brogan, Hingston & Wilson 2001).

In the academic year 2000-2001, Nanyang Technological University, Singapore, undertook a survey of existing KM courses offered by universities in Australia (four were included), Canada, Singapore, UK and USA. Some findings were not unexpected, with most courses being offered at graduate level and emphasis in course content reflecting the discipline of the institution offering the program: for instance, technology orientation in computing departments, greater focus on topics such as intellectual capital, measurement and business cases in departments of business studies, and an emphasis on knowledge repositories and development and management of content in schools of information studies (Chaudhry & Higgins 2004, pp.131, 133). Since initially reporting their findings in 2001, Chaudhry and Higgins note little change in the orientation of courses, and in their 2004 paper (p.132) they reproduce their listing of topics, organised under five broad headings: Foundations (such as Knowledge Workers, Intellectual Capital and Sources of Knowledge), Technology (which includes, for instance, KM Architecture and data analysis tools such as Business Intelligence), Process or codification (including Knowledge Audit, and Search and Retrieval), Applications (which include case studies and implementation) and Strategies (for instance, steps for sustaining KM work and measurement of knowledge assets).

Finally, before considering our own survey, it is worth noting the recent publication (October 2005) of a KM standard by Standards Australia. While other standards bodies, notably the British Standards Institute and the European Committee for Standardization (CEN), have published guides to KM practice, the Australian standard is believed to be the first standard as such (NSW KM Forum 2005), certainly
Almost half of the thirty-four enablers listed are drawn from the field of Management, which is hardly surprising, given KM’s focus on leveraging intellectual assets throughout an organisation, fostering innovation and change, and developing organisational culture. Some, such as content management, document management, environmental scanning, information auditing, leveraging information repositories, and taxonomies and thesauri, for instance, come straight from the information manager’s set of ‘tools, techniques and activities’, while the systems and technologies that feature as enablers include ‘integrative technologies’ (such as portals and extranets), technologies for communication and knowledge sharing (for instance, email, chatrooms, wikis and blogs), technologies for discovery and creation (such as search engines and data mining) and technologies for managing repositories (for instance, databases and analytical processing tools) (Standards Australia 2005, pp.35-3). Interestingly, very few of the enablers might be regarded as distinctly KM activities. These include Knowledge Auditing, Knowledge Literacy and Knowledge Mapping, and even these could be regarded as standard Information Management (IM) activities. More important, however, the enablers identified in the Standard support the view that KM requires a multi-disciplinary approach and provide a clear vision of (what its authors see as) the KM domain.

**Formal KM education in Australia**

The foregoing suggests that there may be a degree of overlap between LIS and KM practice, and between what are perceived to be LIS and KM core competencies, but that such overlap is not developing into any kind of synonymity just yet. If this is the case, then it would follow that the content of courses in Knowledge Management would not be quite the same as the content of LIS courses. At those universities in Australia (Curtin, QUT, South Australia, UTS) which offer both types of course, this can be safely predicted. However, it is still worth analysing the extent to which KM and LIS courses differ – if the overlap is considerable, it may be that their respective curricula can be re-examined, perhaps with a view to establishing a common core that might form the basis of a future merger of LIS and KM professions.

Before comparing KM and LIS courses, however, we will assess the extent to which KM courses overlap with each other. Whereas the content of just about all LIS courses in Australia is directly influenced by ALIA, there would appear to be much more freedom for KM courses to be defined according to local interpretations and expertise. The study reported below does not claim to be a highly accurate measure of covariation between courses, and uses summary data, namely the abstracts of subjects listed on the webpages for the courses. However, it is hoped that this data is representative enough to allow for a reasonable approximation.
KM courses at nine Australian universities were identified for this study, where the award is specifically a qualification in ‘Knowledge Management’, and are listed in Table 1 below. (Where a university offers multiple awards, all are noted, separated by obliques.) For some reason, yet to be established, Edith Cowan University’s course (discussed earlier) is not listed on the Web for 2006.

Table 1 – KM courses in Australia

<table>
<thead>
<tr>
<th>University</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMIT</td>
<td>Bachelor of Business – Information and Knowledge Management</td>
</tr>
<tr>
<td>Curtin</td>
<td>Graduate Certificate in Knowledge Management</td>
</tr>
<tr>
<td>QUT</td>
<td>Graduate Certificate in Information Management (Knowledge Management)</td>
</tr>
<tr>
<td>Murdoch</td>
<td>Graduate/Postgraduate Certificate/Diploma – Knowledge Management</td>
</tr>
<tr>
<td>Canberra</td>
<td>Master of Knowledge Management</td>
</tr>
<tr>
<td>CQU</td>
<td>Master of Knowledge Management</td>
</tr>
<tr>
<td>Melbourne</td>
<td>Postgraduate Certificate/Diploma/Master of Knowledge Management</td>
</tr>
<tr>
<td>South Australia</td>
<td>Graduate Certificate/Diploma/Master of Arts (Knowledge Management)</td>
</tr>
<tr>
<td>UTS</td>
<td>Graduate Diploma/Master of Arts in Information and Knowledge Management (Knowledge Management stream)</td>
</tr>
</tbody>
</table>

Of the nine courses (or sets of courses), RMIT’s is anomalous in two respects. It is the only undergraduate course, and it does not distinguish, in terms of award, between information management and knowledge management. For these reasons, it was excluded from the analyses below.

Overlap amongst KM course curricula
When comparing the content of courses, it is necessary to identify first the level of course, as courses at different levels (e.g. Graduate Certificate versus Masters) should have different subject coverage. The courses listed above represent three postgraduate levels – Certificate, Diploma and Masters. We shall assume in this analysis that these levels are commensurate across the universities. We thus have two groups for inter-curriculum comparison: a group consisting of two Certificate courses, and a group of five Masters courses. For the purposes of the following analysis, we shall omit the course(s) provided by Murdoch University, which falls into neither group.

Of course, it is unlikely that courses at two different universities would comprise exactly the same subjects, in terms of content. Even if the overall content in the courses were the same (very unlikely), the content could well be divided into subjects in different ways. It is also likely that abstracts differ in the level of detail they provide – a more detailed abstract does not necessarily reflect more content in the subject. When we attempt to ‘match’ subjects in different courses, therefore, we should not be surprised to find a fair amount of mismatch. However, we shall assume that despite varying specificity and exhaustivity in the abstracts, and varying subject divisions, there should be some subject equivalency across courses, if the course
content is to overlap significantly, and particularly if subject equivalency is defined in terms of approximation, rather than perfect symmetry. In this analysis, a subject is to be considered equivalent if it is considered that a student would be deemed eligible for recognition of prior learning had he or she passed it.

When determining subject equivalency, it is important to distinguish between core (i.e. compulsory) subjects and electives. Indeed, we have chosen to examine core subject and elective subject equivalency separately. The extent to which elective subjects overlap is interesting, but more important is the extent to which core subjects do, since this is where one would expect greater overlap if the courses treat KM in similar ways.

Table 2 shows core subject equivalency – or lack of it – between the two Certificate courses at Curtin and QUT (the former has no elective subjects). Table 3 shows core subject equivalency amongst the five Masters courses; Table 4 shows elective subject equivalency amongst the four Masters courses with specified electives. Each number in the table represents a particular subject, corresponding to the list of subjects in the Appendix.

No subject equivalency was found between the two Certificate courses, but given the small number of subjects, this is probably not too significant. Comparison of the Masters courses proved more interesting. On average, a core subject in a Masters course was equivalent to 0.4 of the other four courses – a 10% ‘overlap’ (0.4/4). However, depth in a particular subject area is not particularly indicative of a different definition of KM, and is likely to be related, at least in part, to abstracting, course structures, and learning expectations on the part of course providers. Therefore, the core subject equivalency amongst the Masters courses can be legitimately collapsed, as per Table 5, with broader and narrower subjects grouped together into subject areas. This produces an overlap of just under 50% (1.87/4). Bearing in mind that courses at different universities are never likely to be totally equivalent in terms of subject (particularly when based on abstracts), we believe this represents a reasonable level of overlap amongst the KM Masters courses.

Certain of the Masters courses have distinctly fewer common subjects, particularly the University of South Australia’s. Nevertheless, most courses have core subjects in the following areas: KM principles/theory, KM technologies, KM processes, KM in organisations, information organisation/content management.
Table 2 – Certificate courses, core subjects (numbers as per Appendix)

<table>
<thead>
<tr>
<th>Curtin</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUT</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Table 3 – Masters courses, core subjects (numbers as per Appendix)

<table>
<thead>
<tr>
<th>Canberra</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>CQU</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melbourne</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>South Australia</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UTS</td>
<td>30</td>
<td>31</td>
<td></td>
<td>32</td>
</tr>
</tbody>
</table>

Table 4 – Masters courses, elective subjects (numbers as per Appendix)

<table>
<thead>
<tr>
<th>Canberra</th>
<th>35</th>
<th>36</th>
<th>37</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melbourne</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Australia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UTS</td>
<td>39</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5 – Masters courses, collapsed core subjects (numbers as per Appendix)

<table>
<thead>
<tr>
<th>Canberra</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>CQU</td>
<td>11</td>
<td>11/16</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>Melbourne</td>
<td>24</td>
<td>17/22</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>21</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>South Australia</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>UTS</td>
<td>30</td>
<td>31</td>
<td></td>
<td>32</td>
</tr>
</tbody>
</table>

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Nature of KM courses
From the subjects featured in these Masters courses, we can discern several KM subject types:

- organisation and management;
- technological applications;
- information organisation and retrieval;
- business (especially e-business);
- sociology of knowledge and learning.

These categories are fairly similar to the five broad areas identified by Chaudhry and Higgins (2004), discussed above. We shall thus attempt to assign each of the core subjects in the Masters courses into the Chaudhry and Higgins categories – see Table 6.

Table 6 – Masters core subjects by category

<table>
<thead>
<tr>
<th>Curriculum area</th>
<th>Topics</th>
</tr>
</thead>
</table>
| 1. Foundations  | - Business fundamentals for knowledge managers  
|                 | - Contextualising knowledge management  
|                 | - Information research and data analysis  
|                 | - Knowledge management  
|                 | - Knowledge management and the organisation  
|                 | - Knowledge management principles  
|                 | - People, information and knowledge  
|                 | - People, work and organisations  
|                 | - Theories and concepts in knowledge management |
| 2. Technology   | - Connected technologies in organisations  
|                 | - Electronic document management  
|                 | - Information pathways  
|                 | - Knowledge management enabling technologies  
|                 | - Knowledge management systems  
|                 | - Scholarly information sources  
|                 | - Systems management overview |
| 3. Process (Codification) | - Data mining  
|                 | - Knowledge management processes  
|                 | - Knowledge representation |
| 4. Applications | - Applying knowledge management  
|                 | - Knowledge management implementation  
|                 | - Knowledge management practice |
| 5. Strategies   | - Creating knowledge cultures  
|                 | - Developing knowledge in the systematic enterprise  
|                 | - Knowledge management leadership  
|                 | - Knowledge management strategies  
|                 | - Leading change in education and training  
|                 | - Strategic information management |

Clearly, some of these subjects could belong in more than one category, but the listing here is a ‘best-fit’ one, based on the available subject abstracts. Many of the subjects
appear similar to the ones listed by Chaudhry and Higgins. The only substantial difference from the larger, international survey is the relative absence amongst the core subjects listed above of specific technologies and processes, such as intranets, portals, knowledge mapping and knowledge repositories. Greater specificity is found amongst elective subjects, however, and there is no indication in the Chaudhry and Higgins paper whether elective subjects were excluded.

**Overlap between KM course curricula and ALIA’s core knowledge and skills**

There has been some discussion about the extent to which LIS courses of education might cover KM components, or be developed to do so; similarly, we might wish to investigate the extent that KM courses might cover core knowledge and skills demanded of LIS professionals, or might be adapted thus. The very fact that at present we find distinctly KM courses (with the exception of UTS), as opposed to LIS courses, suggests that any overlap in coverage needs to be extended before we might start to see LIS professionals graduate from KM courses, and vice-versa. The question is, to what degree is there scope for such an extension? If there is in fact currently little overlap, then educators may find it difficult to unify these two types of course, and students may be better served by two distinctive sets of course offerings.

In the following study, we took the nineteen core knowledge and skill attributes listed by ALIA in its statement, ‘The library and information sector: core knowledge, skills and attributes’ (http://www.alia.org.au/policies/core.knowledge.html), and compared them with the content of the six KM courses listed above, which offered a qualification at Graduate Diploma or Masters level. It is indicated by ALIA (http://www.alia.org.au/policies/education.role.html) that these attributes should be covered in LIS courses offering a first professional qualification (which would be a Graduate Diploma or Masters).

ALIA formulates its core attributes in terms of ‘information,’ whereas the KM courses, naturally enough, use the term ‘knowledge’ much more frequently. In this analysis, in order to facilitate possible matching, we made no distinction between ‘information’ and ‘knowledge.’ We examined each of the ALIA attributes and then read through both the core and elective subjects described in the webpages for each course (that is, the higher/est course where there was more than one as part of a set), and identified any subject, or combination of subjects, which appeared to reasonably cover the attribute. The nineteen attributes were thus mapped against the six courses, where coverage was ascribed in dichotomous terms – either reasonably well covered, or not. We also mapped the attributes against an Australian ‘LIS’ Masters course, namely the ‘Information and Library Studies’ stream of the Master of Information Management course at Curtin, as a ‘control’. The results are shown in Table 7 – a ‘1’ indicates that an attribute is covered by the course abstracts; a ‘0’ indicates that it is not.
<table>
<thead>
<tr>
<th>Core knowledge and skills</th>
<th>UC</th>
<th>CQU</th>
<th>UTS</th>
<th>SA</th>
<th>UM</th>
<th>MU</th>
<th>total</th>
<th>Curtin</th>
</tr>
</thead>
<tbody>
<tr>
<td>understand and interpret the contexts in which information is originated, stored, organised, retrieved, disseminated and used;</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>comprehend the ethical, legal and policy issues that are relevant to the sector;</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>envision future directions and negotiate alliances for library and information sector development aligned with corporate, social and cultural goals and values.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>understand and investigate how information is effectively sought and utilised;</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>identify and investigate information needs and information behaviour of individuals, community groups, organizations and businesses.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>understand the importance of information architecture to determine the structure, design and flows of information;</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>forecast, plan, facilitate and evaluate appropriate resource management to library and information services.</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>enable information access and use through systematic and user-centred description, categorisation, storage, preservation and retrieval.</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>provide and promote free and equitable access to information and client services;</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>facilitate the acquisition, licensing or creation of information in a range of media and formats.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>design and deliver customised information services and products;</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>assess the value and effectiveness of library and information facilities, products and services;</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>market library and information services;</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>identify and evaluate information services, sources and products to determine their relevance to the information needs of users;</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>use research skills to provide appropriate information to clients.</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>understand the need for information skills in the community:</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>facilitate the development of information literacy and the ability to critically evaluate information.</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
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</tr>
<tr>
<td>systematically gather and analyse data and disseminate the findings to advance library and information science theory and its application to the provision of information services;</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>demonstrate a commitment to the improvement of professional practice through a culture of research and evidence-based information practice.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>total</td>
<td>7</td>
<td>0</td>
<td>11</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>29</td>
<td>14</td>
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</tbody>
</table>
From the evidence presented in Table 7, we must conclude that there is presently, in general, only a limited amount of overlap between what are considered (by ALIA) to be the core LIS professional attributes and the curricula of the KM courses offered by Australian universities. Indeed, one KM course (that offered by CQU) appears to have very little in common with the LIS profession. It is probably no coincidence that this course, and the two others offered by universities with no ‘library school’ (Melbourne and Murdoch), represent the three least accommodating of ALIA’s attributes; those courses at universities with library schools may share subjects with the LIS courses, or the courses may be connected in other ways (e.g. common staff). Moreover, given the range of definitions of KM to which we alluded earlier, one would expect courses such as the Melbourne and Murdoch ones to reflect a different working definition of KM from the one that informs most LIS programs. Of the three most ‘LIS-friendly’ courses, however, two covered only a minority of ALIA’s attributes, and one only a slim majority, whereas the ‘LIS’ course at Curtin scored a significantly higher fourteen out of nineteen (as we would have hoped).

These results do not appear to bode particularly well for a future unification of KM and LIS courses, although it is worth noting that the course exhibiting the most overlap with the ALIA attributes, is the KM stream of a program at UTS, which does indeed attempt to combine KM and LIS education.

**Conclusions**

The literature appears divided on the issue of overlap between the two disciplines (if indeed they are seen as separate disciplines), with some writers suggesting that LIS professionals by and large have the skills to enter the KM domain, and lack only the right attitude and image. On the whole, however, the weight of opinion and evidence, not least the ‘enablers’ listed by the Australian KM Standard, suggests that the required KM understanding and skills go far beyond ‘traditional’ LIS education, and conversely, that LIS education requires the development of attributes which go beyond the scope of KM education. Our survey of KM courses in Australia found a reasonable amount of equivalency amongst the courses, which resemble in essentials those surveyed by Chaudhry and Higgins five years earlier, but failed to find a high degree of overlap between the curricula of these courses and core LIS professional attributes, as defined by ALIA. Rather, it appears that there are separate KM and LIS courses for good reason: the graduates of these courses are entering two distinct, if related, professions. Although this still leaves open the theoretical possibility of a course which prepares graduates for either a KM or an LIS career, it would appear that Australian universities have not yet found a way of squeezing sufficient coverage of both disciplines into a single postgraduate course. In their attempt to prepare graduates for an increasingly diverse and technology-orientated information environment, they must be careful not to end up offering courses caught between two stalls.
References


Appendix

Subjects offered in KM courses

1. Knowledge management principles
2. Knowledge auditing
3. Electronic document management
4. Internet content management
5. Knowledge management
6. Adult and workplace education
7. Knowledge management enabling technologies
8. Knowledge management leadership
9. Knowledge management processes
10. Knowledge management principles
11. Knowledge management
12. Leading change in education and training
13. Systems management overview
14. Scholarly information sources
15. Data mining
16. People, work and organisations
17. Creating knowledge cultures
18. Applying knowledge management
19. Principles of knowledge management
20. Business fundamentals for knowledge managers
21. Knowledge management in practice
22. Contextualising knowledge management
23. Developing knowledge in the systematic enterprise
24. Knowledge management systems
25. Connected technologies in organisations
26. Theories and concepts of knowledge management
27. Information pathways
28. Strategic information management
29. Knowledge representation
30. Knowledge management and the organisation
31. People, information and knowledge
32. Knowledge management strategies
33. Enabling information access
34. Information research and data analysis
35. Knowledge management for e business
36. Information retrieval
37. Information analysis and retrieval
38. Issues in online management
39. Strategic management
40. Managing in information societies
41. The learning organisation
42. Organisation structure, culture and the knowledge worker
43. Information and systems for competitive advantage
44. Information economics
45. Competitive intelligence
46. Information discourse ethics

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The authors

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