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## The LIS School in the ICT age: a Casualty, or a Catalyst for making a ‘Cross-border’ Shift of a Different Type? – the Case of South Africa

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### Abstract:

*LIS schools in South Africa, like in many other parts of the world (including the developing world), are part of a triangular relationship involving LIS teaching departments, universities and the library and information services profession (that is, a relationship involving ‘borders’ of a different type). This relationship is profoundly affected by a rapidly evolving information and technology environment as well as higher education restructuring globally. In a context of ‘diffusion and diversity’ arising from domains framed by different borders, this paper takes a look at LIS schools in South Africa to ascertain whether they have succumbed to the pressures and constraints brought about by a technologically driven information environment and the so called efficiency models of universities. Alternatively, have they used these pressures as challenges to catalyse a ‘cross-border’ or paradigm shift from a discipline that evolved largely on a pragmatic basis to one grounded in epistemology and research methodologies providing it with the capacity to embrace rapidly evolving trends in the generation, use and transfer of information in the ICT age. A qualitative approach, involving a cursory survey of LIS school heads in South Africa analysed against conceptual understandings gleaned from relevant literature, frames the inquiry attempting to address these critical questions. The paper outlines the pressures of the triangular relationship that frames or borders the existence and inherent difficulties of the LIS school and points out that the LIS schools surveyed, each in their own way within their institutional contexts, have managed thus far to survive their challenges - albeit this being no guarantee of continued survival. In terms of whether these LIS schools have used these pressures as challenges to catalyse a paradigm shift in their conceptualisation of LIS education, the paper points out that some have been more creative here than others and concludes that LIS schools, in South Africa or in other parts of the developing world and elsewhere, need to dig deeply and creatively into their epistemological resources to sustain their academic projects in a highly competitive and arduous environment. As a way forward the paper makes suggestions, with the use of concrete examples, of various types of LIS school collaborations some of these including collaboration across country borders, across disciplinary borders, across ‘science/theory-practice’ or ‘academia-professional practice’ borders.*

**Keywords:** LIS education; LIS schools; ICT age; South Africa

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## **1 INTRODUCTION**

John Feather's (2003) seminal piece, 'Whatever happened to the library schools', which explores the implications of dramatic changes in the environments surrounding library and information science (LIS) education, aptly captures the somewhat unsteady triangular relationship between LIS teaching departments, universities and the library and information services (LIS services) profession – a relationship (involving 'borders' of a different type) profoundly affected by a rapidly evolving information and technology environment as well as higher education restructuring globally. Names of academic programmes, departments and schools have come to include the 'I' word or to even omit the 'L word' to embrace diversification caused by evolving information and communication technologies (ICTs) and their revolutionary effects on the services and management of libraries and information centres (Chu 2010: 93). As universities globally restructure themselves for efficiency purposes in a highly competitive higher education environment, LIS (internationally a vulnerably small discipline with declining admissions (Feather 2003; Harvey and Higgs 2003; Lowe 2006)) in many cases have become clustered into larger organisational groupings. In some such cases "restructuring has led to LIS losing its identity, staff and other resources, and even disappearing as a whole programme" (Lowe 2006: 2). Further, the growth of information-related occupations and the parallel growth of information consciousness generally have resulted in a number of higher education institutions moving into the area of providing professional information-related education and training, for example, Information Technology, Information Systems, Business Information Management, Knowledge Management, etc. Hence, LIS schools no longer have a monopoly over the education and training of information professionals. In fact, no single profession has a monopoly over job opportunities in the emerging information markets (Bawden et al. 2005; Mancini 2012). LIS graduates are seeking openings in these new markets, and graduates from a variety of information-related programmes are becoming attractive propositions in traditional LIS markets.

## **2 CRITICAL QUESTIONS**

In such a context of 'diffusion and diversity' this paper attempts to address two (albeit related) critical questions: 1) Have LIS schools in South Africa succumbed to the pressures and constraints brought about by a technologically driven information environment and the so called efficiency models of universities, and hence have become casualties in this highly competitive and arduous environment? or 2) Alternatively, have LIS schools in South Africa used these pressures as challenges to catalyse a 'cross-border' or paradigm shift from a discipline that evolved largely on a pragmatic basis to one grounded in epistemology and research methodologies providing it with the capacity to embrace rapidly evolving trends in the generation, use and transfer of information in the digital age? A qualitative approach, involving a cursory survey of LIS school heads in South Africa analysed against conceptual understandings gleaned from relevant literature, frames the inquiry that attempts to address these critical questions. Such an approach which "results in qualitative (or nonnumerical) primary data" allows "underlying and important factors and relationships" to be revealed, enabling the researcher to address the critical questions guiding the research (Salkind 2012: 13). While the inquiry focuses on the South African context, the paper draws from international trends regarding LIS schools to give the paper relevance to other parts of the world as well, including the developing world.

### **3 SURVEY OF LIS SCHOOL HEADS IN SOUTH AFRICA**

South Africa, an economic powerhouse on the African continent, has a population of around 50 million people of diverse origins, cultures and languages (South African Government Information 2013). A recent member of the BRICS (Brazil, Russia, India, China, South Africa) group of emerging economies, it displays characteristics of both the developed and the developing world, and is in its 19<sup>th</sup> year of democracy, established in 1994 after many decades of apartheid or white-minority rule. The past two decades since the establishment of democracy has seen highly structured efforts, with mixed degrees of success to date, at transformation of key aspects of South African economy and society. The higher education sector, in which LIS schools are located, has been one such key aspect.

There are ten university-based LIS schools in South Africa (Department of Arts and Culture 2010). The survey of LIS school heads covered nine of these 10 schools as an enquiry about one of the ten schools (after much difficulty in making contact with the school) revealed that restructuring at the Walter Sisulu University (located in one of South Africa's nine provinces) had resulted in the reduction of the LIS Programme to an aspect of teaching in school librarianship within the Education Faculty with no LIS specialist academics present any more (indeed a sad example of a 'casualty' amongst LIS schools in South Africa). Of the remaining nine LIS schools, the survey (conducted in the month of August 2012) received prompt and helpful responses from all of the LIS schools (listed in Table 1). The LIS school heads were asked, via email communication, to respond to the following questions:

1. What is the name of your department/programme (e.g. Department of Library and Information Science OR Information Studies Programme)?
2. What wider academic unit is your department/programme located within (e.g. Library and Information Studies, Department of.....OR Department of Information Studies, School of....., Faculty of.....)?
3. What is the collective size of your programme in terms of number of registered students (undergraduate and postgraduate) (e.g. 150 students). This figure should not include faculty-wide or campus-wide servicing areas e.g. Information Literacy
4. What is the size of your programme/department in terms of the number of academic staff (e.g. 3 full-time; 2 part-time)?
5. 1 List, what you would consider to be, three (3) of the most significant challenges which your programme/department has encountered in the last five years.  
  
5.2 In the case of each challenge indicate briefly how your programme/department has responded to it and with what degree of success. Please do not hesitate to indicate situations where resolution is difficult because of national/international trends and are beyond your/institutional control.

### **4 ENVIRONMENTS AFFECTING LIS EDUCATION**

LIS schools live in a space that primarily straddles two worlds, education and the LIS profession (Feather 2003: 40). In terms of the world of education, specifically higher education (HE) where LIS is located, the last quarter of a century has seen dramatic changes, globally, in higher education. Some of these include new funding models linked to success in student recruitment, broadening the socio-economic base in student recruitment (in South

Africa specifically, the previously disadvantaged black majority being a designated group), the focus on research particularly in those universities striving for international rankings (for example, the University of Cape Town in South Africa), the focus on new models of content delivery in the context of opportunities offered by rapidly advancing ICTs, and new approaches to teaching and learning in the context of transforming higher education pedagogy targeting life-long learning skills such as problem-solving; critical enquiry and understanding; capacities for managing change; adaptability; continuous learning, etc. (Powell 2002; Feather 2003; Smidt and Surssock 2011). Universities have re-organised themselves for efficiency and “are more professionally managed”, resulting in many academics lamenting that universities are being “driven by managerial imperatives” (Feather 2003: 40) which are eroding the culture of scholarship and inquiry traditionally associated with the university (Weinberg and Graham-Smith 2010).

With regard to the LIS profession, the provision of information at whatever level and in whatever domain has been dramatically altered by rapid technological advancements which have revolutionised the world. As with LIS schools, name changes affected LIS services as well, with ‘libraries’ often becoming ‘information agencies’, ‘information services’, etc. These name changes, whether in the academe or in professional practice, reflect a real shift in orientation for academics, students, programmes, practitioners and the information services work environment as a whole, in order to embrace the broader information environment resulting from a changing information and technological milieu (Todd and Southon 2001; Feather 2003). Chu (2010: 77) makes reference to the twenty-first century having brought huge changes to the field of library and information service provision and that this is significantly due to the “deep penetration of the Internet and rapid development of digital technologies”. Such dramatic changes have naturally influenced the education of information professionals, and not surprisingly, we see the emergence of iSchools, new subjects in the LIS curriculum such as Digital Libraries, Data Management, Information Architecture, etc., and a re-defining of the core LIS curriculum to embrace technology and its impact.

## **5 IMPLICATIONS FOR LIS EDUCATION (CRITICAL QUESTION 1)**

What are the implications of these environmental changes for LIS schools in the vulnerable triangular relationship that they find themselves within? While out of habit we continue to use the phrase ‘LIS schools’ or ‘library schools’, Feather (2003: 40) reminds us that by the 1990s “ ‘library schools’ became ‘LIS departments’ ”. This seems to somewhat signify a loss of erstwhile hegemony and grandeur resulting from ‘ecological’ changes in the environments impacting on LIS education. LIS is a vulnerably small discipline and hence susceptible to institutional pressures (Feather 2003: 40; Lowe 2006: 2) as seen in cases of proposals to close LIS schools at some of the big universities of the world, for example, the University of Cape Town in South Africa (Ocholla and Bothma 2007), Louisiana State University - the only LIS school in the state (Chu 2010: 99), University of Chicago, Columbia University and the University of California (at Berkeley and Los Angeles) all in the USA (Lynch 2008), amongst many others. All of these LIS schools mentioned, nonetheless, have managed, in one way or another, to re-focus and re-structure their programmes and to continue with their offerings. There are also difficulties in recruiting students (Feather 2003: 40; Harvey and Higgins 2003: 152; Lowe 2006: 2). Harvey and Higgins (2003: 152), writing in the Australian context about small enrolments in LIS schools, explain that in the “funding context of tertiary education in Australia, maintaining student numbers is essential for program survival”. Lowe (2006: 2), explaining the British context, laments that LIS school student numbers are depressed because of “competing attractions of new programmes in

computing, media studies and so on” and the “the comparatively low salaries of LIS jobs in the public sector”.

Lowe (2006: 2) estimates larger LIS schools having around 500 full-time students with up to 25 faculty staff members and smaller ones with around 50 students and 6 academic staff members. Smaller departments, obviously with limited staff specialisations, are often supplemented by part-timers from the LIS profession (Lowe 2006: 2). The situation is not too different in South Africa, indicating that its difficulties are very much part of international trends. The survey of LIS school heads revealed a similar scenario. While none of the nine schools, including the large distance education institution (University of South Africa or Unisa), go anywhere near 25 full-time faculty staff members, the bigger schools (in terms of staff and student numbers), such as those at Unisa and the University of Pretoria, do have full-time academics numbering just under 20 (or are heavily supplemented by part-timers). The University of Zululand, rurally located in the province of KwaZulu-Natal, is remarkable in that, while its student numbers are as high as those of some of the larger LIS schools in South Africa, its academic staff complement (including part-time staff) matches that of the smaller schools. Closer scrutiny is required to ascertain the dynamics surrounding this and the sustainability of this situation. It is not surprising that those LIS schools with larger student enrolments, offer undergraduate LIS programmes as well, while those that are purely postgraduate (notably the Universities of Cape Town and KwaZulu-Natal) have small student enrolments, and hence become very vulnerable to institutional pressures especially in the context of the ‘managerial approach’, focusing on financial viability of programmes, with which many universities are now run. Hence it is these schools who, when asked to comment on the most significant challenges encountered in the last five years, not surprisingly, present low enrolments of postgraduate students at the top of their lists. Yet ironically, the postgraduate route in LIS education has traditionally (and internationally) been preferred by employers, particularly in the academic and special library sectors, because of its ‘broad base education’ provision (Feather 2003; Hallam, Partridge and McAllister 2004).

Almost fifty percent of the LIS schools surveyed identified curriculum relevance as one of the three significant challenges confronting their programmes in the last five years. Concern here is warranted. The pervasiveness of information work has made it very diverse “with many LIS graduates pursuing their careers far beyond the boundaries of the traditional job market in libraries and information centres” (Hallam, Partridge and McAllister 2004), for example, knowledge management in government and industry, database services, web design, publishing, portal management, as entrepreneurs, etc. Further, modern academic libraries are increasingly interacting with users in an online environment using library websites, mobile technologies and social networking tools. Hence the need for “highly-skilled, e-savvy” graduates “if libraries are going to remain relevant in a primarily digital world” (Barthorpe 2012). In the HE context, LIS graduates enter a world of work transformed by “the revolution in scholarly communication” and these changes have dramatically affected all aspects of academic library operations (Davis and Moran 2005). Hence Barthorpe (2012), amongst others, questions if LIS schools, often far removed from the reality of the information provision work environment (author’s addition),

really understand the increasingly complex library environment and the needs of academic libraries, particularly in the areas of information technology and data management and that the programmes need to be broader especially in the digital environment and scholarly communications areas.

Barthorpe (2012) goes on to express a commonly noted concern among employers that new LIS graduates “are not adequately equipped for the jobs they are applying for” and that modern academic libraries “need to be looking more broadly for specialist skills in areas such as business, marketing, web development and computer science”, - these are the LIS competitors in the professional information-related education and training market, alluded to earlier. It is not surprising then that LIS schools in South Africa feel a tremendous pressure from the professional practice sector to develop sustainable and dynamic curricula that are responsive to the demands of an increasingly broad and diverse employment landscape. South Africa is not alone in this concern – it is and should be a concern among LIS schools, globally (the developing context included), if LIS schools are to remain relevant in this rapidly evolving e-landscape of information management.

A common concern among the LIS school heads surveyed related to difficulties in attracting quality students as well as quality academic staff to the discipline. This has serious implications not only for the future quality of LIS teaching, learning and research in HE (a situation aggravated by the aging LIS academe in South Africa, and a concern surfacing in the survey of LIS school heads), but also for the quality of graduates who enter professional practice. Feather (2003: 40), writing in the British context, claims that recruiting well-qualified undergraduates into LIS has for many years been difficult even for the leading LIS schools in the United Kingdom. Barthorpe (2012) makes reference to factors such as the negative image of the profession, less than competitive salaries and increased competition from other information-related sectors as inhibiting the attraction of the “younger generations X and Y” to the LIS profession. Lynch (2008: 941), too, asks, “How can the salaries and status of librarians be improved so as to interest ambitious students to the field?”. These are serious issues to be addressed by the broader LIS community and obviously needs professional body intervention.

A further source of vulnerability in this delicate triangular relationship that LIS schools share with the university on the one hand and the wider LIS profession on the other, is the “ever-present tension” between what is taught and what is practised (Lynch 2008: 931; Chu 2010: 104-105); the recurrent tension between theory and practice. An article appearing in a 2012 issue of the *Mail & Guardian* in South Africa very cogently addresses this issue of the dichotomy between theory and practice and is very instructive for the LIS profession. Augustyn and Cillié (2012: 2), Industrial Psychology academics, claim that in the social sciences “science and practice” are clearly drifting apart and that “both academics and practitioners are to blame for this state of affairs”. With disarming honesty these academics (one of them an emeritus professor) explain that their discipline is an applied one (psychology applied to industry) and that without the applied side it is almost impossible to justify the existence of their discipline. “We also believe”, they claim, “our views are applicable to other disciplines in the social sciences” (Augustyn and Cillié 2012: 2), such as, the author would like to add, the discipline of LIS. LIS, after all, is a discipline that evolved out of practice (pioneered by Melvil Dewey through his concern for the organisation of public libraries) but later, after the famous Williamson Report of 1923 (Lynch 2008), the LIS discipline became firmly located within a university setting with its own epistemological basis. The LIS discipline and profession as a whole can benefit from the call by these industrial psychology colleagues for “more interaction between academics...at universities and practitioners in the field” (Augustyn and Cillié 2012: 2). To this call, the author would like to add a call for more interaction between the LIS discipline and other cognate disciplines, such as Information Technology, Information Systems, Media Studies, Business

Information Management (to name a few) which would allow LIS schools to address the skills demands of a changing library and information work environment.

Notwithstanding the difficult space in which LIS schools in South Africa live, a space intersected by multiple and demanding sectors (and involving multiple borders), the nine LIS schools surveyed seem to have kept themselves out of the 'casualty' ward, in one form or another. Given the challenges just discussed, none of these nine LIS schools can claim that there is a guarantee that they will stay healthy and safe. The question then is, what are the capacities that could be drawn on to remain relevant in this demanding and challenging environment?

## **6 SURVIVAL OF LIS SCHOOLS (CRITICAL QUESTION 2)**

A major response to the challenges discussed, both locally and internationally, has been re-organisation of LIS schools which include re-positioning, re-location and, in some cases, inevitably closure. Ocholla and Bothma (2007) reported that in the years leading to the turn of the century, South Africa "witnessed a drastic reduction of its LIS schools" leaving the country with the 10 schools, which this paper uses as its point of departure. Re-positioning has included name changes to reflect diversification of programmes embracing the rapidly evolving trends in the generation, use and transfer of information in the digital age (Chu 2010: 93). Academic re-location, to overcome the vulnerability of 'smallness' within a university environment increasingly managed by 'bean counters', involve clustering into larger organisational units (Lowe 2006: 2; Chu 2010: 93). Feather (2003: 40) comments that the trend has been a move away from a narrow focus on "librarianship courses" towards more broadly-based offerings in information management, often in combination with computing, communication studies or business studies". Chu (2010: 97) identified Communication or Education as the "common choice to subsume or partner with LIS schools when academic re-location is considered".

Table 1 indicates the re-positioning and re-location among LIS schools in South Africa. Clearly evident are the international trends of name changes to embrace diversification, clustering into larger organisational groupings (notably the University of KwaZulu-Natal, Durban University of Technology and the University of Limpopo). Some of the larger LIS schools (University of South Africa, University of Pretoria, University of Zululand) as well as Fort Hare and the University of the Western Cape have been able to remain as stand-alone academic units while the rest have become subordinate to a 'parent unit'. Internal institutional dynamics play a major role in these academic reconfigurations. One LIS school head, where LIS is still a stand-alone academic unit indicated that they are "fighting to remain relevant within the faculty and the university". Another, this time the head of LIS in a programme that has been clustered with 'academic siblings' claims that reconfiguration in the university has made "transition to the new systems difficult", perhaps referring to difficulties associated with orientating to the new 'cluster' environment after many years of being a stand-alone academic unit. A number of the LIS schools in South Africa have retained the 'library' identity (see Table 1) while embracing diversification through the introduction of the 'I' word.

LIS schools in South Africa need to creatively and robustly respond to internal institutional challenges to their viability as academic projects, as well as to challenges to their teaching, learning and research from a LIS profession profoundly affected by a rapidly evolving information and technology environment. Whether as stand-alone academic units or subordinates within wider organisational groupings, they need to dig deep into their

epistemological and methodological resources that grounded the LIS discipline in the university environment, in order to respond to these challenges. University restructuring could, as Lowe (2006: 2) cautions, lead to a LIS school, “losing its identity, staff and other resources, and even disappearing as a programme” as seems to have happened in the case of the LIS school at the Walter Sisulu University in South Africa. Hence, the need to creatively manage such restructuring to ensure the well-being and growth of the LIS programme. When LIS school heads were asked to indicate how their programmes responded to challenges confronting them, with the exception of aggressive marketing to increase student numbers and attract quality academic staff, and regular curriculum review, in large part they indicated that many of their other challenges related to institutional, national or international trends (discussed in this paper) and over which they have little control. Hence, it is important to interrogate possible creative measures that could be used to effect a paradigm shift in the way LIS education is usually conceptualised to assist in overcoming some of the inherent difficulties that LIS schools face in their current disciplinary space.

Table 1: ‘LIS schools’ in South Africa

Institution	Name of ‘LIS school’	Wider academic unit
Durban University of Technology (DUT)	Library and Information Studies Programme	Department of Information and Corporate Management <b>Faculty of Accounting and Informatics</b>
Fort Hare	Department of Library and Information Science	<b>Faculty of Social Sciences and Humanities</b>
University of Cape Town (UCT)	Library and Information Studies Centre	<b>Humanities Faculty/UCT Libraries</b>
University of Kwa-Zulu Natal (UKZN)	Information Studies Programme	Development Cluster: Gender Studies, Economic History; Information Studies <b>School of Social Sciences</b>
University of Limpopo	Programme of Information Studies	Department of Communication, Media and Information Studies <b>Faculty of Humanities</b>
University of Pretoria (UP)	Department of Information Science	School of Information Technology <b>Faculty of Engineering, the Built Environment and Information Technology</b>
University of South Africa (Unisa)	Department of Information Science	Schools of Arts <b>College of Human Sciences</b>
University of the Western Cape (UWC)	Department of Library and Information Science	<b>Faculty of Arts</b>
University of Zululand (Unizulu)	Department of Information Studies	<b>Faculty of Arts</b>

## 7 THE WAY FORWARD

Ideas from Information Studies have been exported into disciplines such as “computer science and engineering on the one hand and business and management on the other” and they, according to Chu (2010: 101), have contributed significantly to the literatures of these disciplines. If one takes a close look at LIS curricula, for example, areas such as Resource



Planning and Use, Resource Description and Communication or Knowledge Organisation and Management, one would realise how much LIS, in turn, has borrowed from these disciplines. Hence, Chu (2010: 101) innovatively suggests that the “intellectual relationship between LIS and other disciplines is getting stronger, thus making LIS more interdisciplinary”. It is precisely this interdisciplinary nature of the LIS discipline that allows it to expand its boundaries, its theories, and to extend knowledge and skills preparation outside of traditional libraries to include jobs in additional fields, while at the same time maintaining education and training for libraries. This interdisciplinary strength allows LIS the possibilities of jointly offering advanced programmes with non-LIS schools such as Media Studies, Information Systems, Computer Science or Business Information Management, rather than simply viewing them as competitors in the information-related education and training market. This trend is already picking up in parts of the world, for example, the University of Amsterdam “combines LIS and Business Education in its executive master’s program” (Chu 2010: 102). The University of Pretoria’s Department of Information Science has led the way for South Africa by jointly offering programmes with what they term ‘sister’ Departments of Informatics and Computer Science.

Feather (2003: 41-42), a decade ago, in a first-world context (the UK), warned that affordability of full-time study by students is an issue, and therefore “full-time postgraduate education becomes less attractive in the LIS sector” (in our developing contexts, this is an even greater challenge). A LIS school head from one of South Africa’s largest LIS schools identified “attracting full-time postgraduate students” as a significant challenge experienced by the school. Feather (2003: 41-42) saw a greater shift towards part-time and distance education and appealed for the “need to re-engineer the relationship between the [LIS] schools and the profession” with LIS schools “working more closely with both the professional associations and major employers of LIS graduates to ensure a continuing supply of ... entrants into the profession”. South Africa has seen the fruits of such relationship “re-engineering” in the Library and Information Association of South Africa’s (LIASA’s) partnership with three LIS schools in South Africa offering the Postgraduate Diploma in LIS and three major city municipality employers of public librarians in the Next Generation Public Librarian Scholarship (NGPLS) Programme funded by the Carnegie Corporation of New York. The NGPLS Programme, in 2012, played an instrumental role in preventing the closure of the LIS school at the University of Cape Town and also produced a significant cohort of professionally qualified public librarians required by South Africa’s development imperatives.

Further, advancing ICTs allows for creative exploitation of a variety of curriculum delivery models to increase student intake levels – for example, block release from employment at certain stages in the academic year which is successfully being used by the University of Cape Town in the NGPLS Programme, online course facilitation with the use of learning management systems (such as Blackboard or Moodle or any of the many online tools becoming available), use of Open Educational Resources through open access platforms, a combination of online and face-to-face instruction as is being used by the University of KwaZulu-Natal in the NGPLS Programme. And if one wants to get more ambitious, the digital age offers LIS schools possibilities beyond one’s country’s borders. Tamarro (2005) is inspiring in her account of how LIS education in Italy has been enriched through the internationalisation of LIS master’s programmes in digital libraries involving LIS schools scattered across Europe, that is, allowing students to take master’s modules for credit at multiple institutions. The LIS school at the at the University of Cape Town has just started a

master's module in Digital Curation (a current area of high skills demand) using this this transferability principle.

A final area that this paper wishes to address in considering new paradigms for LIS schools in their conceptualisation of LIS education is that relating to education and practice. While this long-standing tension is likely to continue in the years to come, Davis and Moran (2005) point out that "LIS educators and practitioners working together can ensure that tomorrow's professionals will be well prepared to enter the field". Table 1, under the wider organisational grouping for the LIS school at the University of Cape Town (UCT) shows the novel case of UCT Libraries being the organisational locus for the LIS school with the Humanities Faculty being its academic home. This model has been conceptualised by the university for precisely the reason of ensuring a close synergy between the LIS school and professional practice so as to influence the quality of graduates entering the work place. Thus far the model has yielded much success with curricula being developed in close co-operation with practising professionals so that required skills and competencies are addressed. The LIS school is able to take full advantage of opportunities offered by the latest technologies and cutting-edge developments in a state-of-the-art academic library of a leading research university; and, high level specialist practitioners, for example in areas such as digitization, metadata handling, open access and institutional repositories, enriching the core educational programme which is grounded in philosophy and theory. It is precisely this synergistic working relationship between science and practice that Augustyn and Cillié (2012: 2-3) call for so that science has relevance for the real world.

## **8 CONCLUSION**

LIS schools in South Africa, like elsewhere in the world (including the developing world), are accountable to two masters, the university and the profession - hence the challenging triangular relationship that frames (or borders) their existence and inherent difficulties. This paper, using relevant literature and a cursory survey of LIS school heads in South Africa, outlined the pressures of this relationship and it would seem that the nine schools surveyed, each in their own way within their institutional contexts, have managed thus far to survive the challenges resulting from a technologically driven information environment and the efficiency models of their universities (critical question1) - albeit this being no guarantee of continued survival. In terms of the second critical question which asks whether LIS schools in South Africa have used these pressures as challenges to catalyse a paradigm shift in their conceptualisation of LIS education, the cursory survey of LIS school heads in South Africa was not sufficient to draw out details on this issue - some heads were more detailed in their responses than others which suggests that some LIS schools may have been engaging more with such a paradigm shift in the conceptualisation of LIS education than others. A deeper survey of LIS schools (as suggested below) is necessary to ascertain concrete examples, if any, of such a paradigm shift. Each university has its own internal dynamics, some harsher than others'. For example, research-led universities, where, internationally, some of the "dramatic re-structuring" of LIS programmes have occurred [see examples cited at the beginning of this paper], seem to have been particularly hard on LIS schools perhaps due to their emphasis on research rather than vocational education (Lynch 2008: 949). Further, there are no signs that the tensions for LIS schools would diminish. Therefore, LIS schools, in South Africa or elsewhere (including the developing context), need to dig deeply and creatively into their epistemological resources and use the interdisciplinary nature of the LIS discipline to sustain their academic projects in a highly competitive and arduous environment. Possible further research could include a follow up to the cursory survey of LIS school heads but this time 'drilling down' into individual institutional dynamics within the

nine LIS schools to mine primary data for studies towards addressing LIS school challenges emanating from the changing environments within which they are located.

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