CATCHING THE TIDE: environmental pressures for an emphasis on management in the library and information sciences curriculum

Ian M. Johnson
School of Information and Media, The Robert Gordon University, Faculty of Management, Garthdee Road, Aberdeen AB10 7QE, Great Britain (i.m.johnson@rgu.ac.uk)

Abstract

This paper considers the impact of the emerging 'Information Society' on the education and development of information professionals, particularly in the area of management. It identifies those features of the 'Information Society' which are significant for teaching and learning: the new Information and Communication Technologies; users' growing expectations of information services; the changing job market; and convergence in the information sector. It outlines some steps which Schools of Library and Information Sciences in Britain have taken to respond to the challenges presented by the new environment: revising the existing curriculum and teaching methods; expanding the range of curricula; and improved support for continuing professional development. It describes some obstacles to progress: particularly the lack of research into the value of information; isolation from other disciplines, such as political science; potential challenges from Business Schools; and the shortcomings of current distance learning provision.

Introduction

> *"There is a tide in the affairs of men,*
> *Which, taken at the flood, leads on to fortune;*
> *Omitted, all the voyage of their life*
> *Is bound in shallows and in miseries."* [1]

Anyone who has studied the life and times of Julius Caesar, as it was represented in the play by William Shakespeare, or as it is recorded in the historical evidence, cannot fail to be aware that one of the significant features of his character was his ability to recognise a unique opportunity, and to act decisively and in an innovative way to take advantage of it to advance his career. When he led his army across the River Rubicon into Italy in 49 BC, Caesar is alleged to have remarked, "*Alea iacta est*" (the die is cast). He knew that he had committed himself and his supporters to a struggle which they could not afford to lose. The alternative was death or exile.

---

[1] William Shakespeare. Julius Caesar, Act IV, Scene iii.

The pronouncements which many of the leaders of profession continually make about the role of library and information professionals in the 'Information Society' appear to be just as irrevocable a commitment. They argue that today, arising from the impact of the emerging 'Information Society', there is a unique opportunity to advance the status of the profession, and that if this opportunity is missed there will never again be the possibility to change both the role and the public perception of what library and information service professionals do and their value in society. We are not attempting to seize power in the state, and the consequences of failure may not be mortal, but we do risk being marginalised if we fail. Too often, however, the claims made for the emerging role in the 'Information Society' are not grounded in any practical suggestions as to what it is necessary to do to succeed. What this paper seeks to do is to suggest some ways of reconsidering the approach to the education and development of information professionals as managers to equip them to seize this opportunity.

Before the educators can determine what strategies they need to adopt, they first have to understand the environment in which information professionals work today, and in which students are likely to work. The features of the 'Information Society' that are significant for teaching and learning and which need to be considered appear to be:
- the impact of Information and Communication Technologies
- users' growing expectations of information services
- the changing job market for the skills of the information professional
- convergence in the information sector
- the need for life-long learning.

After discussing those issues, and their educational implications, the paper outlines:
- some of the current educational provision in Britain which responds to those challenges, and
- some issues which still need to be addressed.

The impact of Information and Communication Technologies

Anyone can see that, as a result of the increased application of Information and Communication Technologies (ICT) to information provision, the job of a library or information service manager is more than likely to involve activities of a highly technical nature, requiring knowledge and understanding not just of traditional practices in library and information services, but also of the latest technological developments. State of the art reviews continually point towards the need for information professionals to be increasingly well-equipped with relevant Information Technology skills. The European Commission's Information Market Observatory reports, for example, not only summarise the spread of the technology, but also point to the demand for more, and more relevant, teaching and training.[i] However, employers now require staff not only with a thorough grounding in the necessary technical knowledge, but also with relevant managerial expertise and practical abilities.[ii]

It is very easy for us to be overwhelmed by the continual changes in the capability of the technology, and the seemingly never-ending need to master the latest machine or software. In the early stages of teaching Information Technology, teaching consequently focused on developing students' competence in using the latest system the Schools had acquired. There is some merit in that approach, because employers tend to take a narrow view of the skills

they seek when they are recruiting new staff. However, can it be a valid approach, when changes are often implemented on a piecemeal basis by individual employers? The Schools have continual difficulty in keeping abreast of all the latest developments, either because of budgetary constraints on Universities, or because they have sensible central management policies which permit and provide major changes in the Information Technology every few years on a University wide basis. Surely, what is needed to develop in students transferable skills in relation to the technology? These might be based on:

- giving them an understanding of the underlying principles,
- accustoming them to using manuals for self-instruction when introducing new systems,
- demonstrating how systems might be applied in professional practice,
- providing a level of technical understanding, sufficient to discuss systems confidently in dealings with vendors and technical experts, and
- enabling them to recognise what the technology is capable of doing, sufficient to plan and manage changes in information provision.

Meeting users' expectations

It is recognised, and accepted, that the new technologies make some information services more directly available to the end user. Indeed, the increasing range of electronic information is based on the efforts of individuals and organisations to attempt to sell their information products directly to the end user. What then is the role of the information professional, and what skills will students need to acquire? It seems that the information professional will need to be able to assist users by:

- providing them with carefully selected and well organised collections of information, including electronic information, and - above all -
- providing information which has been analysed and repackaged to meet their needs precisely.

There is an urgent need to apply professional expertise to developing Web sites which provide links to "pages" which have been evaluated for their accuracy, whose relevance to the user's need has been defined, and which can be accessed quickly through a focused and organised system of guidance. None of these appear to call for new skills, but the new environment calls for us to perform these tasks in different and more thorough ways, so that the users remain, if not dependent on us, at least aware of unique contribution to meeting their needs. The parallels with the traditional library activities of selection, acquisition, and cataloguing should be quite obvious, but all too often the initiative is taken not by libraries but by other organisations. The company which publishes the *Encyclopaedia Britannica*, for example, has recently announced that it will be making available links to, initially, 65,000 Web "pages", all carefully selected for their relevance and accuracy, as a supplement to the encyclopaedia. This is just one example of the emerging competition which traditional library and information services face. It is, of course, no different from what publishers have been doing for years - collating information already in the public domain, and then charging people for the benefits they obtain from being able to use it. The challenge which this presents to the information professional is to justify their response, whatever it might be. Making additional investments in information services to develop similar services free of charge calls for the information professional to have political skills which are, generally, not strongly developed at present. The alternative response - making a charge for using this new service - demands not only a change in professional philosophy but also the development of

strong business skills to make the venture viable. Either response calls for entrepreneurial skills which do not appear to be a notable characteristic of librarians. So how do we equip our profession with the necessary skills and attitudes? How do the Schools of Library and Information Sciences develop in their students the entrepreneurial attitudes more commonly associated with the business community?

We also have to recognise that so much information is now available that working with it is becoming a problem. The phenomenon of information overload has been succeeded by the recognition of information fatigue as a illness.[iii] It is no longer sufficient to be able to give the user a large number of bibliographic references, or to let them search the Web and discover thousands of allegedly relevant pages of information, and then to leave them to make the best use of it. What they need from us is information which has already been evaluated, selected for its relevance to the problem being investigated, and presented in a summary form which identifies the key issues and enables them to draw conclusions or make decisions quickly. It is perhaps worth recognising that this repackaging of information not only provides added value in the eyes of the user, but also raises the visibility of the library and information service in the eyes of the organisation's management. What implications does this have not only for what we have to teach students in terms of new techniques, but also in terms of their management skills?

We also need to acknowledge that much of the information needed by decision makers exists within an organisation's records of its own activities, perhaps in non-traditional formats.[iv] The volume of information produced internally is often greater than that which has to be acquired from external sources. Managing these records so that the information can be retrieved when required can make a very cost effective contribution to decision making at the level of operational management, and in many organisations there is a greater demand for Records Managers than there is for librarians. The professional and technical skills required are in many respects similar, but they need to be underpinned by the level of understanding of the organisation necessary to organise an effective information retrieval system. It also points towards the need for some kind of unified management structure for these different and currently separate information activities, and for a broader awareness than that possessed by the traditional library and information service professional.

Change and convergence in the information industry

The growth in information and communications is essentially a Twentieth Century phenomenon, and most of the growth has been in the second half of the century. The newer media have enjoyed dramatic growth in the last decade. Forecasting their prospects in the next century is inevitably fraught with difficulties. However, it is clear that, in a knowledge based society increasingly capable of exploiting the potential applications of technology, the information industry in its broadest sense will be an economic sector of growing importance.

During the early part of the 1990s, there was significant government encouragement for the British Universities to expand their intake of students. To achieve this expansion, the Universities have in many instances focused their efforts on developing new programmes of study to meet the needs of emerging, changing or growing industries. The recent development of new programmes in the British Schools of Librarianship should therefore be seen to some extent as reflecting the pull-push effect of a recognition of the need for an increasingly professional workforce to match the growth and increased significance of the

information industry, and the government's expansion of the higher education system to provide the work force required by a competitive economy. We have, consequently, seen a number of new and innovative programmes of study emerge from the Schools of Library and Information Sciences throughout the UK.

The information industry, which in Britain employs more than a million people,[v] can be conveniently divided into three sectors: content creation, delivery, and processing. Traditionally, we have seen our profession as part of the information delivery sector. Information creation was the role of the media, and information processing was concerned with computer systems. Nick Moore has described the roles of the information professional in the context of the delivery sector of the information industry - as creators, collectors, consolidators or communicators.[vi] However, we are now seeing a blurring of the boundaries between both the industry sectors and the roles of the information professionals.

Moore suggests that the creators of information include those whose skills include desk top publishing, Web-page creation, and applying their skills to helping others to navigate through complex information systems. The role of the collector has been extended by the appearance of electronic information. The communicators, he suggests, are those who could analyse people's information requirements quickly and accurately and solve their problems in a variety of circumstances where the transfer of information in its broadest sense provides the solution. The communicators are those who can gather, analyse and synthesise information to save the time of others, and present it to them in an easily understood form. There is considerable complementarity in these roles, as well as a very evident relationship to the skills of the library and information sciences professional. If the Schools of Library and Information Sciences are to help to play a part in meeting the growing needs of the communications and information industry, surely they must develop a broader range of courses?

The growth in the global market for information has helped to establish a clear public perception that the information sector is a now major industry. The employment opportunities are numerous and increasing rapidly. Major international and UK companies now see themselves as being in the information and communications industry, and are expanding their range of activities accordingly. The European Commission is now forecasting that there will be one million new jobs created by multimedia developments in Europe alone in the next ten years. The information and communication industry now offers unparalleled growth in the employment opportunities for relevantly trained professionals. This new environment clearly presents major opportunities for the information profession, and particularly for the educators of information professionals. The potential student demand for appropriate courses to prepare them for careers in these areas is substantial.

Convergence with the information content sector

Change, especially that due to information technology, is blurring the dividing lines between the occupational sectors in the information content sector. Publishing, for example, is now a multi-media business. The same material can be published as pamphlet, book or journal article, abstract or index record, in print, on-line or on CD-ROM. It could also be recorded in sound or on film in any number of different media, and be broadcast by radio or television, terrestrially, by cable or by satellite. The quantity of information, and the complexity of the knowledge which it represents, have created a growing requirement for secondary sources in

which the information is simplified and re-presented in a coherent form by indexers, abstracters, researchers, authors of text-books, or technical writers. The principles of information storage, retrieval and dissemination lie at the heart of this activity. The development of the World Wide Web as an information source places librarians and information service professionals at the heart of content creation.

Other occupational groups within the information industry are being as profoundly affected by technology driven changes as is the information service professional, particularly as a result of the creation of the media conglomerates, and it has been apparent for some years that - on an individual basis - many of the industry's managers have a narrow knowledge and skills base and a limited perspective on the industry and the issues which surround it. If a strategic view of the workforce across the whole of the information and communication industry is taken, it is evident that the people who work in it do share a common base of knowledge and skills, although their specialist expertise - and their aims and attitudes - do differ. That body of common knowledge becomes more relevant as individuals progress from specialist positions into general management. For example, in the publishing industry, people are initially employed in one of the three main streams of activity - editorial, production, or marketing; progress to more senior positions in the same stream; and then move into general management without necessarily having acquired a broader understanding of the totality of publishing activity. Because of their traditional central position in the industry, library and information service professionals have a perspective on it - and a body of knowledge and skills - which is unique. How can the managerial expertise which already exists in the Schools of Library and Information Sciences be exploited to cater for these emerging needs?

Convergence with the information processing sector

Perhaps equally significant is the convergence with the activities of other information specialists.

There is no doubt that many organisations have accepted that information is becoming a complex and expensive commodity. There is starting to be a recognition that information is not just a major expense, but a major asset, which requires the same management attention as human and financial resources, property assets and raw materials. Increasingly they are beginning to recognise, because of the impact of the Information and Communication Technologies, that they have a variety of information functions currently operating separately. This has compelled organisations, both large and small, to look at the way in which they manage their information systems and services, and they are seeking to amalgamate them in the interests of efficiency and economy. There is a tendency - in industrial and commercial organisations, in government departments, in hospitals, and in universities[vii] - towards the convergence of libraries and information services, computer systems, telecommunications, archival and filing systems, and publishing activities under the single, overall management necessary to ensure compatibility of technology and a common sense of purpose.

Whilst many in profession are still struggling to accept and implement the concept of the Information Manager in their professional practice and in their teaching, the era of the Knowledge Manager has already begun. How do the Schools begin to give students the vision to recognise that their career may extend to managing such a multi-disciplinary group of activities? How do they give them a more holistic view of the information needs and provision in an organisation, encompassing not only conventional library and information

services, but also the management information systems, market research, policy research, organisational communications, and records management, as well as the computer and telecommunications systems which increasingly underpin them all?

Whilst some people may feel that Knowledge Management is simply a matter of applying our techniques to a variety of areas of information within an organisation, there is a growing awareness that as a profession we must step beyond our traditional preoccupation with the techniques of managing information services, and help our students develop a greater understanding of the role of information as perceived by top management.[viii] This understanding needs to encompass not only the structure of the organisation, but also what it is trying to achieve, its methods of working, and the environment in which it operates. Moreover, progress is unlikely to be made towards coherent information provision in an organisation unless top management not only recognises the advantages, but is also willing to address the structural and political problems of implementing change. Rarely, however, does one see, amongst information professionals and their teachers, even the slightest awareness of this crucial issue, and the need to convey an understanding of it to students. Again, what implications does this have for what has to be taught to information professionals to help them to understand the role of management and knowledge of management techniques? Who will provide the future information professional with the range and level of knowledge they need?

If library and information service professionals are to influence information provision in the electronic age, it will not be enough to demonstrate not only that they are professionally and technically competent. They will also have to prove that they can serve the organisation or community more effectively than other managers, particularly the Information Technology managers. Until recently the Information Technology managers been dominant figures in organisations, because of the size of their budgets, and because general managers have combined a growing appreciation of the potential benefits of information with a lack of understanding of the technology. In contrast, the traditional perception of role and status of the library and information service professional frequently limits their ability to influence change. However, they should take some encouragement from a recent study which confirmed that in many organisations the Information Technology managers, whilst they have a great deal of influence based on their control of systems which are critical to implementing change in information service provision, in fact know relatively little about the information needs of the organisation, the information available to meet those needs, or its uses.[ix] Librarians are fully familiar with the information needs in the organisations and communities they serve, and with the relevant specialist information sources. Some also have sufficient understanding of the new Information and Communication Technologies to identify the way forward.

Nonetheless, in competing for the job as overall manager of these converged services with the Information Technology managers or other specialists qualified in aspects of information and communication work, the modern information professional must not only have a broad awareness of the roles of these other information services, but also be a thoroughly professional manager. Information professionals are needed who can operate cost-effective and cost-efficient services, who are receptive to new ideas, who are familiar with the legal and ethical issues surrounding information provision, who are sensitive to the political environment within their organisation, who can adapt their service to the changing needs of the organisation, and who can continually demonstrate the value of the information service to the achievement of the organisation's aims.

So, how do the Schools of Library and Information Sciences begin to develop in students the ability to manage and lead a multi-disciplinary information service making a useful contribution towards the fulfilment of an organisation's aims? Above all, how - and when - should they be provided with the requisite knowledge of management techniques and an understanding of organisational politics?

The need for life-long learning

Of course, it is much more difficult nowadays to predict what students will be expected to be able to do during a working life which could span 40 years. It is now less than 30 years since Toffler predicted that the future would no longer be predictable on the basis of past events.[x] More recent writers have confirmed the accuracy of his prediction. Vaill, for example, discusses the issues of living, surviving, and developing, in "*permanent white water*", a complex, turbulent, changing environment over which we have little control.[xi]

In the period since Toffler made his predictions, many of the changes that have shaped our present professional environment have taken place. The DIALOG service became available on-line only 25 years ago. It is less than 20 years since the IBM PC was launched, and now the processing speed of computer memory chips takes a major step forward every 6 months. It is only about 10 years since CD-ROM technology was applied to databases, but it is already being phased out in many libraries and replaced by cooperative mirror sites providing on-line data, or by Web-based data bases. It is only in the last few years that improvements in networking software and graphical user interfaces have driven the expansion of the Internet and the World Wide Web. And telecommunications systems such as ATM which have the capacity to transmit huge quantities of digitised data across networks at incredible speeds are only just beginning to emerge into public use.[xii] Most of the students currently enrolled in Schools of Library and Information Sciences can be expected to have a working life of 30 to 40 years. Can the educators realistically be expected to forecast the range of activities which might be undertaken throughout the career of future graduates, and the demands on their knowledge of management techniques?

Given the pace of change in the field, the Schools (and the professional bodies) clearly need to instil in students - and in established practitioners - a commitment to lifelong learning. As the management expert Tom Peters has said:

> "*The only job security lies in being more talented tomorrow than you are today*".

Again, however, whilst it would be easy to be distracted by the surge in information resources, it is important to remember that whilst librarians work in a specialist environment in which they practice their professional skills, and the level of their responsibilities varies, it is also the case that from the moment that they commence their professional careers, all librarians are managers. They cannot fulfil their professional aims and objectives unless they also manage effectively the material and human resources at their disposal. This must be recognised in planning their continuing education. Indeed, it is arguable that much management education is only effective when the student has had some experience as a manager, and that most people's knowledge of the techniques of good management needs continual reinforcement.

We also have to consider the librarians' political skills, not only in terms of relations with the users, but also in terms of their presence in the organisational and national political arena. At the local level, the real decisions about library and information services tend to be taken by users who can influence the funding agency to meet the information needs in the field in which they are interested. At the national and international level, it is essential that information policies are adopted that protect economic and social advancement and cultural differences for all nations. A large number of issues will need to be addressed before workable policies can be put into place. These include trans-border data flow, privacy and data protection, intellectual property, trade and the information industry, database access, telecommunications standards, and education and training. Many of these issues involve government and private sector relationships, as well as legal concerns which may be difficult to address, particularly in the international context because policies will be impacted by differences in economics, politics and culture in the various regions of the world.[xiii] No professional is unfamiliar with the challenges of running a library in a political environment. Librarians are engaged in political decisions whenever they are involved in stock selection policies, for example. How can these skills, and the acceptance of these skills, be made much more explicit? What has to be taught to students about the need to and how to influence the significant users and the decision makers? What do they need to know, and who will teach them, about relationships with the press, working with elected officials, and negotiating strategies and skills.[xiv]

Because, at entry level, information work is a very practical discipline, the emphasis in the Schools of Library and Information Sciences has been largely on teaching, and on developing technical competencies, rather than on developing students' ability to learn. However, it is clearly essential that their initial professional education should provide a foundation of knowledge and understanding, which will stimulate a deep interest and involvement in the communication of information and the issues concerned with managing the flow of communications. Clearly, the teaching institutions have to consider not only the content of their courses, but also the impact of their teaching, learning and assessment methods in preparing the new information professionals. It will require the introduction of new developments in their courses to be regularly planned and monitored, and complementary arrangements to be put in place for the teachers to be regularly updated on both potential content and appropriate teaching methods. It is particularly challenging for teachers to be confronted not only with the need to master the latest developments, but also to devise appropriate means of transmitting them to students. This is a demanding - and sometimes expensive - undertaking, but is a challenge too important to avoid. The need for teachers' knowledge, skills, and abilities to be continually reinforced and updated is rarely discussed by the practitioner community in a positive and supportive manner. Some greater recognition needs to be given to the fact that the process of continual improvement - the underlying principle of Total Quality Management - lies at the heart of curriculum development.

Responding to the challenges

The need to respond to these challenges has not arisen suddenly. Many elements of the necessary response are already in place. In explaining how the Schools of Library and Information Sciences have already responded to these challenges of developing information managers, some elements of current educational provision in Britain, and some outstanding issues are described in the following paragraphs.

Impact of ICT

The approach to teaching ICT has gone full circle - from teaching this as a separate subject, to its full integration into appropriate areas the curriculum, and now back to teaching the more advanced aspects of it (for example, multi-media, or the Internet) as a separate entity. Throughout this period, the Schools have also experimented with Computer Based Learning, but much of their effort has rapidly been made redundant by technological progress. Even the potential of the World Wide Web as a foundation for networked learning resources appears threatened by expected changes in the Mark-up Language.

However, we have also seen a number of new and innovative programmes of study emerge throughout the UK. We have seen the establishment by several Schools - The Robert Gordon University, Sheffield University, and University College London - of whole new undergraduate or postgraduate programmes focused on themes such as telecommunications and computer networks, which complement or extend beyond rather than replace programmes in library and information science. In The Robert Gordon University, new Masters degree programme has also focused on the management of electronic information systems.[xv] It is perhaps worthwhile outlining some of the objectives of this course, which are to enable students to develop:

- a comprehensive understanding of the characteristics of electronic information sources, and of the needs of those sources' users;
- expertise in the commissioning, design, development, delivery, management and use of products, services and systems intended to automate information-handling operations;
- an awareness and personal assessment of current professional practice in the effective management of any process that involves the organisation or communication of information in electronic form;
- the ability to analyse and evaluate the use of alternative procedures, techniques and resources in the application of information technology at any stage of such a process;
- an appreciation of the social, economic and legal implications of such activity, and of the impact of electronic information on all sectors of society; and
- the ability to undertake a critical appraisal of the nature, structure and condition of the electronic information industry and the interaction between the creators, producers, distributors and consumers of electronic information products, services and systems.

Managing in the broader information industry

Many of the Schools of Library and Information Sciences in Britain have now taken a broader view of their role, and diversified to meet the needs of emerging job markets in the information industry. Some have used their already developed core of expertise in the field of communications and information in its broadest sense as a basis for the development of programmes concerned with the production and distribution of information: publishing, communications/media management, and technical communications. In The Robert Gordon University, Loughborough, and Thames Valley Universities, programmes in Publishing Studies have evolved, and at University College London and at City University Masters degree programmes in Electronic Publishing have been established.[xvi] In The Robert Gordon University and the University of Central England in Birmingham, developments have also

encompassed Corporate Communications - the means by which organisations communicate information to their clients and employees - and the management of the mass media.

We are also beginning to see the emergence of programmes producing the multi-skilled employee which many employers in the information industry tell us they need to work in a multi-disciplinary organisations. These are, in effect, programmes which draw on common elements from the range of programmes offered by the diversified Schools. In some instances, the students develop their own programme by selecting, with guidance, an appropriate range of Units from within the programmes offered not only within the well-developed Schools of Library and Information Sciences, but perhaps also from other cognate disciplines in the same University. There may be initial resistance from some employers whose sole requirement is for specialist knowledge and skills, because the skills of these graduates in any specialist area will inevitably be less than those who have taken a programme focused on a particular specialism. However, the graduates from these programmes will be able to align their skills with various entry level positions, and subsequently will present new challenges to the narrowly focused information professional who is seeking to move into management.

Managing the converged information organisation

There is no doubt that managers value information.[xvii] A major opportunity lies in the area of records management, where the growth in employment opportunities is far stronger than in libraries, because of the increasing requirement for organisations to document their activities as part of a programme of Total Quality Management, or as a defence against future litigation. The differences between records management and librarianship require a significant effort to develop teaching material, but the University of Northumbria at Newcastle has successfully initiated a Masters degree programme in this field. A number of Schools - for example in Liverpool and Sheffield - are associated with their University's Business School in teaching aspects of business information, in terms of the management of information produced within an organisation and needed at the operational level.

There has also been a recognition that information professionals must add value to the services which libraries have traditionally provided, by making the information more accessible and relevant to users' needs. The Robert Gordon University has moved to support the research function in organisations with a Masters degree in Information Analysis.[xviii] In Aberystwyth and Loughborough, new Masters degree programmes have focused on the needs of a specific user community - the medical and healthcare information sector. The professional work of graduates from these courses inevitably places them closer to the centre of the organisation's activities, and makes their activities more visible to senior management.

In addition to ensuring that they have the professional and technical knowledge and expertise to manage the whole range of information services in an organisation, librarians face another, more significant challenge. The challenge for librarians is to compete for the top jobs in converged services. If library and information service professionals wish to become part of management of the organisation at a strategic level, which is where information is most valued, [xix] librarians need to develop the skills to operate effectively at that level. They must want to manage; they must be good managers; and they must be seen to be good managers. Recognising the complexity and diversity of the new environment, a number of the Schools - Sheffield and Strathclyde, for example - have begun to teach Information Management as part

of their University's MBA programmes, and Loughborough has established a MBA programme in Information Management in collaboration with the University's Business School.

Interestingly, we are also seeing the incorporation within Schools of Library and Information Sciences, such as Manchester Metropolitan University, of undergraduate programmes which are focused on the role of information in society, rather than on the skills of the information professional. Does this suggest that graduates from this programme will enter general management positions in a variety of industries at the start of their career, rather as graduates from other non-vocational programmes already do? What implications does that have for the future development of information and knowledge management in organisations? It may mean that there will be more general managers who will be knowledgeable about information, and willing to try to resolve the political problems of amalgamating the information functions. It certainly poses the possibility that the information professional could be competing for senior executive positions with individuals who are more knowledgeable about information than has been usual amongst general managers, and who may have a broader background of general management experience in the organisation than the information professional.

Entrepreneurialism and adding value to services

To play an effective role within organisations, alongside their professional knowledge and skills base, information professionals will also need the right attitudes and personal qualities. The curricular model for the British Schools of Librarianship was traditionally based on the implicit assumption that graduates will go to work in large library organisations. However, in recent years, a growing proportion of graduates who now take their first job in organisations where they are the sole information professional, where not only will they be called on to undertake a wide range of information-based tasks, but where their success will depend on their personal qualities. Teaching methods have, therefore, focused more on the development of managerial and 'political' skills[xx]: the ability to work in teams, leadership skills, and good communication and inter-personal skills.[xxi]

Much attention has also been given recently to the potential of one to one techniques such as mentoring as a means of developing individuals through the exchange of experience.[xxii] Some work has also been done to try to use 'Learning Pairs' to help identify and develop librarians' transferable skills in situations in which career progression is only possible by moving out of the library environment - a challenge which faces many professionals in small special libraries.[xxiii]

Meeting the need for life-long learning

There is no doubt that to meet the challenges presented by the new information environment and new competitors in the field, the information professional must be committed to lifelong learning. A recent study of the relationship between continuing education and career success has pointed to the importance which successful professionals attached to it.[xxiv] Provision for continuing education in Britain is already well developed, and some 40% of the short courses each year are focused on management themes. Most of the Schools of Library and Information Sciences in Britain now offer one-day non-residential events, focused on issues of current interest, and in some cases depending heavily on the involvement of practising

professionals as instructors. In total, however, only about 2% of the short courses in Britain are provided by the Schools, mainly because there is little encouragement for them to do so in the present arrangements for government financial support for the Universities. [xxv] As the government begins to become more active in encouraging continuing education through its financial support mechanisms[xxvi], it seems likely that the involvement of the Schools of Library and Information Sciences will increase. To provide access to continuing education, all the Universities have already begun to redesign all degree programmes on a modular basis, so that individuals can attend relevant classes each week to update or extend their knowledge and skills without necessarily taking a qualification or gaining 'credits'.

The Schools of Library and Information Sciences in Britain have also responded to the pressures of time and financial constraints faced by libraries by providing courses on-site, tailored to the requirements of individual libraries, training co-operatives, and professional groups. Although the Schools sometimes charge a fee, they generally recognise the support they receive from the profession (e.g. in arranging fieldwork placements, study visits, and occasional lectures for their students), and the benefits to staff of being in regular contact with professional practice, and aim to recover only the direct expenses involved in delivering these courses.[xxvii]

Traditional training methods hamper in-service training opportunities for geographically dispersed library staff. For example, most courses leading to advanced qualifications in library management have generally enjoyed only a short period of success before enrolments have declined. The reasons for the general decline are not clear, but it probably reflects the potential size of local market for these part-time courses. One exception has been the Masters degree in Strategic Library Management at Manchester Metropolitan University, which has flourished for several years, perhaps because it enrols students only every second year.

Another example of success can be found in an initiative taken by the University of Wales Aberystwyth, where a post qualification Masters degree programme in Library Management was established in 1985/86. This continues to maintain its enrolment target of c.30 students each year. The distinguishing features of that programme are that it is taught mainly through distance learning. Subsequently the Northumbria Records Management programme and The Robert Gordon University's Masters degree in Publishing Studies have begun to be offered by distance learning methods. The major characteristics and assets of distance education include not only increased continuing education opportunities for those unable to attend conventional courses, but also a wide variety of contributors to the creation of materials, and carefully designed and coordinated self instruction materials and procedures.[xxviii]

Emerging technologies are already being used to deliver continuing education programmes to librarians regardless of physical location. Computer aided training can be interactive and individualised, and offered in such a way that it can be consulted at any time, such as telecourses, using video-conferencing, on-line courses, via the Internet, or published on the World Wide Web to serve as a continuously available resource.[xxix] Increasingly, governments also see libraries as a service offering access to non-traditional, continuing learning materials delivered across these electronic networks.[xxx] It would be ironic if librarians were themselves excluded from the potential benefits of these changes. However, distance education is not entirely without problems. It lacks the remedial possibilities of face to face interaction. Library support is also often inadequate compared to residential campus models.[xxxi] It also has to be acknowledged that many so-called Internet based distance learning courses are still paper-based courses with contact by e.mail, or Web sites from which

copies of lecture notes can be down-loaded. Remote, slow and non-interactive distance learning is probably not a major step forward, and the widespread availability of fast Internet access, or video-conferencing by terrestrial or satellite telecommunications is probably still a few years away. Whether electronic distance learning is entirely appropriate to management development, other than transferring knowledge about techniques, remains to be seen.

Outstanding issues

Some of the issues implicit in the questions posed earlier in this paper have been or are being addressed by the British Schools of Library and Information Sciences:
- developing transferable skills in technology
- taking a more holistic view of information in an organisation
- meeting the growing needs of the communications and information industry
- giving students a vision of a multi-disciplinary career
- helping them to understand the role of management

What are the issues which remain outstanding? What do we have to teach students in terms of new techniques, particularly in terms of their management skills, so that they know how to:
- raise the visibility of the library and information service in the eyes of the organisation's management?
- develop entrepreneurial attitudes?
- persuade employers to take a less narrow view of the skills they seek and a broader view of the skills they possess?
- providing them with an understanding of organisational politics?
- influence the significant users and the decision makers?

One particular problem will perhaps become crucial in the future. The real decisions about library and information services tend to be taken by users who can influence the library's funding agency to meet the information needs in the specialist field in which they are interested. Most library and information services, even those operating within the commercial sector, are not easily able to argue for the additional investment required to deliver technology based services, which tend to have a higher visible cost than the print based services which they replace or supplement. Because it is difficult to point towards tangible benefits which will be derived from introducing these new services, librarians are usually faced with the dilemma of reducing the investment in existing services or doing nothing. Reducing existing services is likely to be resisted by users, especially by those who are not familiar with the latest information tools and services. However, doing nothing will, over a period of time, diminish the relevance and effectiveness of the service - and presents a threat to its future survival.

For too long information professionals have been content to assume that own assessment of the value of library and information services was widely held, and have occasionally been surprised and disappointed to find that this was of no significance when hard decisions have to be taken about budgets. Most of the empirical work which has been done on measuring performance has focused on technical processes rather than on identifying those things that matter to users and measuring performance against their expectations.[xxxii] In the face of competition both from other parts of an organisation for a share of its budget, and from other information providers for a share of the users' support, it is necessary to be able to

demonstrate relevance and impact in terms of the values of users and funders, and on the basis of empirical evidence. In the health care field, for example, economists have established a measure for the cost benefit of medical treatment, based on what they call 'Quality Added Life Years', that is the number of years which the patient can be expected to live in good health after receiving a specified treatment. Interestingly, even in those organisations where the outputs are more tangible - in business turnover and profit, for example - little work has been done to provide empirical evidence of the contribution of information. How then can we measure the effectiveness of public, school and university libraries? These are complex questions, and will not find a quick or easy solution. The effort of resolving them requires the development - by the Schools of Library and Information Sciences, and with the encouragement and support of the practitioner community - of a greater number of practitioners with an expertise in or familiarity with research methodologies derived from the research training explicit in Doctoral and Masters degrees.

If, as a profession, we wish to have a greater influence on own future and a more significant role in the Information Society, surely we also need to work more effectively than we appear to have done in the recent past in lobbying the decision makers so that we can make information services more visible and more highly regarded? Whilst we teach students to manage the resources they control, we do little to teach them how to manage the organisational and political environment. One of the regrettable features of educational provision for the information sector in the past has been the isolation of many Schools of Library and Information Sciences from other academic disciplines. However, the new courses which have evolved in Britain are in many cases taught in collaboration with staff from the other departments in the same University. In some cases, students attend units shared with courses in other disciplines. Building these relationships is not necessarily easy, but may contribute to the development of new insights into the operation of our profession. In the field of political science, for example, there is already a large body of research evidence on the representation of professional interests within the British government and the European Union, a theme which forms an element of The Robert Gordon University's Masters degree in Information Analysis.[xxxiii]

The growing awareness of the importance of information, and expertise in the field has facilitated collaboration with Schools of Business and Management Studies, where the opportunities for substantial joint programmes are almost self-evident. At the operational level, the techniques are those familiar to most information professionals, but the real interest lies at the strategic level, where top management is grappling with a new and unfamiliar problem - how to reorganise and manage its information resources in a coherent manner. Indeed, we probably face strong competition from these Schools for the right to teach Knowledge Management.

Who will provide the future information professional with the range and level of knowledge they need to manage in this environment? Can the managerial expertise which already exists in the Schools of Library and Information Sciences be exploited to cater for these emerging needs? Are these issues which the Schools can address on their own, or does they need the collaboration of the employers, or teachers in other disciplines? It seems that there are a number of ways in which the Schools and the employers of their graduates might collaborate:
- in research and development projects whoever initiates them
- practical experience for students before or during their course

- bringing practitioners into the Schools, not only as visiting lecturers, but on long term staff exchanges
- sponsor a teaching or research post in a School, perhaps to provide a position for a senior practitioner to apply his or her experience.

However, no matter what provision is made for the development of the information professional as Information Manager or Knowledge Manager, it will be of little value unless the graduates from the Schools of Library and Information Sciences themselves recognise and value their own management expertise. There is already a strong body of expertise developed by current teaching and by the nature of the work of the information professional. Sadly, however, evidence suggests that they do not give themselves full credit for this.[xxxiv]

Concluding remarks

How have all these developments in educational programmes been achieved in Britain? How can other Schools of Library and Information Sciences make similar progress in the future?

Occasionally, University authorities have been persuaded to employ additional staff, to merge existing groups of staff, or to offer research studentships and internal research 'grants' to enable Schools of Library and Information Sciences to make strategic developments. There have also been efforts to establish collaborative exchanges of information, through the national association for Schools of Library and Information Sciences.[xxxv] But more often it has still been the case that the existing staff of the Schools of Library and Information Sciences have had to be encouraged and supported to make a significant effort to extend their own knowledge base to teach new material.

Whatever approach has been taken, it is important to recognise that the basis for development has usually been a clear strategy, which enabled Schools to make progress as and when the need and opportunity arose. Despite the rapid emergence of the 'Information Society', it also has be accepted that not everything can be done at once. As Tom Peters, the American management 'guru' remarked:

> *"A passion for excellence means thinking big and starting small; excellence happens when high purpose and intense pragmatism meet."* [xxxvi]

If educators and practitioners are to catch the tide and flow with the opportunity which the emergence of the 'Information Society' presents to the profession, there has to be a vision, and a willingness to make the effort needed to turn vision into reality. However painful it may be in the beginning, the ultimate satisfaction will be well worthwhile. The alternative-standing still - is not an option. All vocational curricula have to strike a balance, not only between the underlying theories and principles and the professional skills and techniques, but also between the realities in the local job market and the leading edge of professional practice and potentiality. Everyone will find some aspects of change contentious, but as another management 'guru', Charles Handy, has observed:

> *"Progress is a risk you have to take*." [xxxvii]

AUTHOR

Ian Johnson has been Head of the School of Information and Media at The Robert Gordon University, Aberdeen, Scotland since 1989. Previously he was in charge of industry liaison and continuing education programmes at the College of Librarianship Wales (the University of Wales School of Librarianship and Information Studies); Assistant to the British Government's Advisers on library matters; and an operational manager in public libraries. He was Chairman of the International Federation of Library Associations and Institutions (IFLA) Section on Education and Training from 1991 to 1993, and Chairman of the Professional Board of IFLA from 1993 to 1995. From 1993 to 1995 he was also Chairman of the (British) Library Association's Personnel, Training and Education Group. He is currently a member of the Council of The Library Association; a member of the Editorial Board of *Education for Information;* and Chairman of both the Heads of Schools and Departments Committee of BAILER: the British Association for Information and Library Education and Research, and of the Executive Board of EUCLID: the European Association for Library and Information Education and Research.

June 1998

An earlier version of this paper entitled "Catching the tide: new strategies for developing teaching and learning for information managers" *was presented at the 4th Conference of teachers and researchers in Librarianship, Archive Studies and Information Science in Latin America and the Caribbean, which was held in Maracaibo, Venezuela in April 1998, and is to be published (translated by Beatriz Maniquez into Spanish) in the Conference Proceedings.*

REFERENCES

[i] EUROPEAN COMMISSION, Information Market Observatory. The main events and developments in the information market, 1993 - 1994. 1995. Directorate General XIII.

[ii] JOHN FIELDEN CONSULTANCY. Supporting expansion: a report on Human Resources Management in Academic Libraries for the Joint Funding Council's Libraries Review Group, July 1993 (revised September 1993). 1993. Bristol: Higher Education Funding Council (England). ("The Fielden Report").

[iii] WADDINGTON, P. Dying for information: an investigation of information overload in the UK and world-wide. 1996. London: Reuters Business Information

[iv] HARE, C. E. Continuing professional development for the information discipline of records management. Part 1: Context and initial indications of current activities. *Librarian Career Development,* 4 (2), 1996, 22-7.

[v] GREAT BRITAIN. CABINET OFFICE. Information Technology Advisory Panel. Making a Business of Information: A Survey of New Opportunities. 1983. H.M.S.O.

[vi] MOORE. N. Future demand for information professionals in Europe. *in* Planning human resource development for information societies: report of the consultative meeting and workshop, [Bangkok] 3 - 7 March 1997, supported by the Ministry of Education, Science, Sports and Culture, Government of Japan, and jointly organised by Sukhothai Thammathirat Open University and UNESCO Bangok, Thailand. 1997. Bangkok: UNESCO. pp. 37-53. (To be reprinted in *Education for Information* in 1998)

[vii] Joint Funding Councils' (HEFCE, SHEFC, HEFCW, DENI), Libraries Review Group: Report. 1993. Bristol: Higher Education Funding Council (England) - ("The Follett Report")

[viii] KOENIG, M.E.D. Information driven management: concepts and themes - a toolkit for librarians. 1998. K.G. Saur.

[ix] SMITH, J.M., *and others*. The Intelligent City: electronic information and its potential in the provision of health and safety information in the oil and gas industry. 1996. Aberdeen: The Robert Gordon University. (British Library Research and Development Department Report 6255)

[x] TOFFLER, A. Future shock. 1970. London: Bodley Head.

[xi] VAILL, P.B. Learning as a way of being. 1996. San Francisco: Jossey-Bass Publishers.

[xii] MURDOCH, J.W., *and others* . Developments in communications technology: an introduction for the non-technical reader. *Audiovisual librarian: multimedia information*, 23 (2), May 1997, 112-117.

[xiii] BENDER, D.R. A strategy for international information policy. *Libri*, 43 (3), July 1993, 210-231

[xiv] MASON, M.C. Politics and the public library: a management guide. *Library Journal*, 114 (5), 27-32, March 1989

[xv] FURNER, J. Education for the information professions: new developments at the Robert Gordon University. Paper presented to the 4th European Bielefeld Colloquium, Bielefeld, 10-12 February, 1998. Available on the Web at URL - http://archiv.ub.uni-bielefeld.de/veranstaltungen/1998/bielefeld.kolloquium.4.0004.htm

[xvi] JOHNSON, I.M. Education for publishing - the British experience. Paper presented to the Conference 'The Book, Libraries, Publishers and Laws', organised by Zagreb Chamber of Commerce's Association of Publishers and Booksellers and the University of Zagreb's Department of Information Science and, sponsored by the Cultural Policy and Action Division of the Council of Europe's Directorate of Education, Culture and Sport, December 1996, Zagreb. (in press)

[xvii] HAWLEY COMMITTEE. Information as an asset: the board agenda. 1996. London: KPMG IMPACT.

[xviii] MARCELLA, R.C. The development of a new Postgraduate Diploma/MSc course in Information Analysis at The Robert Gordon University *in* New worlds in information and documentation: proceedings of the forty-sixth FID Conference and Congress held in Madrid, Spain, 22-29 October 1992. 1994. Amsterdam: Elsevier. pp. 471-477.

[xix] ROWAT, M. Industrial intelligence: the need for synthesis. *Library Management,* 7 (5), 1986, 29-36.

[xx] JOHNSON, I.M., *and* WILLIAMS, D.A. The "enterprise culture" and curriculum development for librarianship and information studies. *Personnel, training and education,* 7 (2), 1990, 31-36.

[xxi] LEVY, P. People skills: interpersonal skills training for library and information work. 1992. London: British Library. Library and Information Research Report

[xxii] NANKIVELL, C. *and* SHOOLBRED, M. The mentoring research project. *Personnel, training and education,* 12 (1), May 1995, 7 - 10.

[xxiii] FARMER, J.C. *and* CAMPBELL, F.C.B. Reaching beyond the plateau: identifying special librarians' transferable skills through 'Learning Pairs'. 1997. Aberdeen: The Robert Gordon University. British Library Research and Innovation Centre report 46.

[xxiv] FARMER, J.C. *and* CAMPBELL, F.C.B. Continuing Professional Development and career success. 1998. Aberdeen: The Robert Gordon University. British Library Research and Innovation Centre report.

[xxv] JOHNSON, I.M. The development of continuing education in British schools of librarianship and information studies *in Theorie et pratique dans l'enseignement des sciences de l'information - Bridging the gap between theory and practice*: proceedings of the first joint meeting between the Association Internationale des Ecoles de Sciences de l'Information (AIESI) and the Association for Library and Information Science Education (ALISE), Montreal, Canada, 25 - 27 May 1988; edited by Rejean Savard. 1988. Montreal, Canada: Universite de Montreal, Ecole de bibliotheconomie et des sciences de l'information. pp. 467-488.

[xxvi] NATIONAL ADVISORY GROUP FOR CONTINUING EDUCATION AND LIFELONG LEARNING. Learning for the Twenty-First Century: First report. November 1997.

[xxvii] JOHNSON, I.M. The development of continuing education in British schools of librarianship and information studies *in Theorie et pratique dans l'enseignement des sciences de l'information - Bridging the gap between theory and practice*: proceedings of the first joint meeting between the Association Internationale des Ecoles de Sciences de l'Information (AIESI) and the Association for Library and Information Science Education (ALISE), Montreal, Canada, 25 - 27 May 1988; edited by Rejean Savard. Montreal, Canada: Universite de Montreal, Ecole de bibliotheconomie et des sciences de l'information. 1988. pp. 467-488.

[xxviii] ELY, D.P. Educational technology and distance education. 1981. Syracuse, New York: ERIC Clearinghouse on Information Resources

[xxix] BRANDT, K.A, *and others*. Current topics in health sciences librarianship: a pilot program for networked based lifelong learning. *Bulletin of the Medical Library Association,* 84 (4), October 1996, 515 -523

[xxx] GREAT BRITAIN. Department for Education and Employment. Connecting the learning society: National Grid for Learning. 1997. London: Department for Education and Employment.

[xxxi] GROBLER, L.M. Information support to distance postgraduate students at the Graduate School of Business Leadership, University of South Africa. *In* Proceedings, Seventh Off Campus Library Services Conference, San Diego, California, October 25-27, 1995. 1995. Mount Pleasant, Michigan: Central Michigan University. pp. 163 - 174.

[xxxii] JOHNSON, I.M. *Review of:* LANCASTER, F.W. If you want to evaluate your library. (London: Library Association Publishing Ltd., and Urbana: School of Library and Information Science, University of Illinois. 2nd ed. 1993.) *Journal of Librarianship and Information Science*, 26 (4), December 1994, 238-239.

[xxxiii] *See, for example*: GREENWOOD, J. Representing interests in the European Union. 1997. London: Macmillan Press Ltd. Especially Chapter 6, Professional interests (pp. 133-154)

[xxxiv] FARMER, J.C. *and* CAMPBELL, F.C.B. Reaching beyond the plateau: identifying special librarians' transferable skills through 'Learning Pairs'. 1997. Aberdeen: The Robert Gordon University. (British Library Research and Innovation Centre report 46)

[xxxv] JOHNSON, I.M. Recent trends in cooperation between schools of librarianship and information studies in Library and Information Science - parameters and perspectives (Essays in honour of Prof. P.B. Mangla); edited by R.G. Prasher. 1997. India, New Delhi: Concept Publishing Company. 2 vols. Vol.1 (Library and Information Science: basic), pp. 75-80.

[xxxvi] PETERS, T., and AUSTIN, N. A passion for excellence: the leadership difference. 1985. London: Collins.

[xxxvii] HANDY, C. Progress is a risk you have to take. *Management Today*, August 1997, 27