Needed Skills for ASEAN Academic Librarians

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Abstract
Today the academic librarians must systematically review their organization and adopt strategic planning and assessment activities that clearly justify their value to their institutions.Librarians must define a vision that is aligned with the institutional vision. This means librarians must prove their value by supporting the teaching, learning and research programs of the institution in ways that inform the learning outcomes of these programs. Academic libraries will continue to facilitate the discovery, access, evaluation, creation, use and preservation of the information critical to learning, teaching and research; but they will do this in ways that are more integrated with and responsive to the academic community. The success of the academic library in the 2.0 world will, to a large extent, depend on higher education's response to the changing environment.
While historically education and schooling are directly related to the imaginaries of nation building and national identity making, the call for the creation of an ASEAN identity and the formation of a socio-cultural community requires that nation states in the region de-parochialize education and redesign pedagogies that teach and learn beyond the nation. The report brings out the existing situation of workforce in academic libraries and finds identifiable factors that link the preparation of workforce and determines the skills required to fill the vacancies.
Keywords: Academic Libraries, ASEAN Community, Human Resource Development, Library Workforce

Introduction
To excel in the 21st century workforce, individuals need to think creatively to solve problems, collaborate across multiple networks, communicate effectively using a wide range of media and demonstrate an entrepreneurial attitude toward the work. Not only are the requisite skill sets for success changing, but the demand for employees with advanced degrees is also accelerating.

- **Critical thinking and problem solving**—including the ability to make decisions, solve problems, and take action as appropriate;
- **Effective communication**—the ability to synthesize and transmit ideas both in written and oral formats;
- **Collaboration and team building**—the ability to work effectively with others, including those from diverse groups and with opposing points of view;
- **Creativity and innovation**—the ability to see what's not there and make something happen.

According to the ASEAN Charter, a closer cooperation in education and human resource development will empower the people of ASEAN and strengthen the ASEAN Community. The ASEAN higher education institutions' mission to produce the graduates of international quality equipped with professional skills, language skills and inter-cultural skills. An establishment of the ASEAN Community by 2015 will inevitably affect ASEAN communities in every aspect. It is imperative that all the members have to prepare themselves not only for being a good member of ASEAN Community but also for utilising the ASEAN Community. In addition, all of the related processes will lead to the exchange of knowledge bodies, languages, tradition and culture.Today the college and university librarians act as liaisons between the library and various academic departments within the institutions. They must be able to

engage with faculty in order to assist them in both scholarly research and curriculum development (Hardy &Corrall 2007). In the last two decades, academic libraries throughout the world are undergoing great change. ASEAN is no exception.Thus, the examinations of the impacts that this changing workforce has on academic libraries, with a particular focus on a content analysis of skills required are in need.

Objective

To determine the skills that will be required to fill the vacancies in the ASEAN academic libraries

Methodology

The project gathered data from several focus groups' literature, each consisting of LIS schools, representing LIS curriculum and also the national qualification framework, and academic library recruitment advertisements. An important feature of the study is to capture the definition of "Academic Librarian workforce for the ASEAN Community".

Needed Skills

The Librarian is continued to be important in the organization. Components of the old skill set are no longer valuable to the present day library professionals. Dramatic retooling is required to the library staff because there will be diminished role for "teaching and learning" in the 2020 university. Role of Academic Librarians will change to more of an "informationist" (with focus on big data) and a "collaborationist" (connecting researchers with other researchers, grant funding, etc.)

The New Skills sets and competencies in the professional librarians include: Ability, if stuck with traditional mindset, it will impede the organization. Deep subject expertise and less room for generalists and deep IT skills are needed to work in the 21st century libraries. Intellectual property/rights managementis required to deal with e-resources. The entrepreneurialism (creativity, project management, leadership, fundraising, competitive intelligence) in the librarians will help the users. Capacity for supporting deep collaboration with faculty and be a broker of deep collaborations with others adds value to the services. The needed skills for ASEAN Academic Librarians are:

1. **To provide intellectual access to information in any format**

Providing intellectual access to information is a role librarians have filled for a long time. Traditionally librarians have done this via print-based resources. During the second half of the twentieth century the range of available resources expanded to include microform, video and audio formats. The final decades of the twentieth century witnessed a further explosion in formats, and libraries can now offer information in the form of print, audio, video, microforms, numeric, computer programs, or multimedia composites of each. For librarians, the most important issue is to provide the information in whatever form it is packaged. As McMillan (2000) observed, librarians do not attempt to meet the information needs of users with just one format.

Within the 21st century library environment, the choice of format is not the most crucial issue: it is being able to provide information resources to patrons - regardless of format. Librarians and patrons will no longer be restricted to 'a single entity where everything is stored', but rather librarians will be able to offer 'a range of services and collections, linked together or made accessible through electronic networks' (Lim, 1996)

In such an environment, access to information does not always imply ownership, merely that the library has negotiated the means by which patrons gain access to resources and information. This has created what Lim terms a paradigm shift 'from ownership to access'. This in turn has created a new role for librarians - that of negotiating access rights through contracts and licenses.

The development in electronic access to scholarly journals is a key example of the shift from ownership to access. University and research libraries especially, find the option of providing electronic access to journal subscriptions to

be a means of dealing with complex multi-campus organizations where the client population comprises an increasing mixture of on- and off-campus students.

While electronic access to journals appears to be a godsend to patrons and researchers, cutting out countless hours of tedious bibliographic detective work, the behind-the-scenes decisions and negotiations conducted by librarians to provide the service are fraught with numerous complex issues. Electronic serials must be evaluated against the relative importance of content. For example, scientific journals may lack full equations, graphics, and charts. Journals within the social sciences and humanities may lack book reviews and advertisements. These content issues must be weighed against issues of speed and ease of access (Miller, Peters, Pappano and Manuel, 1999).

A further issue to be considered is the ability to access earlier issues of an electronic subscription. With printed subscriptions libraries own and may continue to access those issues they purchase during the lifetime of the subscription. With electronic subscriptions, libraries pay for *access* to the journals rather than ownership, and at the end of a subscription a library may no longer have the right to access a title. Some publishers will provide access to a specific number of issues, for example the previous five years rather than offering a cumulative arrangement. The need to negotiate continuing access with publishers is becoming a significant responsibility for librarians.

Providing electronic access to journal literature was one of the first ways libraries began to use the newly-evolving technologies. The development of electronic reserve (e-reserve) collections, demonstrates another way in which librarians are adapting new technologies to deliver services more effectively. Electronic reserves provide the ability to digitize a printed document, video, audio, or data, so that many students can access it simultaneously without the limits of attending a library building within opening hours.

The technology to provide digital access to library reserve collections has been available for some time. However the wholesale adoption of this mechanism has been impeded by a lack of clear copyright and intellectual property ownership laws for the digital environment. The pace of technological development has, inevitably, outstripped established legislation.

2. To evaluate available sources of information

Batt (1999) observed that there is an increasing diversity of information resources from which to choose the most appropriate vehicle, and that librarians must widen their selection processes in order to decide on the right medium for each situation. The objective in the evolving virtual library is 'to develop information systems providing access to a coherent collection of material, more and more of which will be in digital form as time goes on' (Lynch and Garcia-Molina, 1995).

There are those who have been prophesying the end of printed information resources as we know them for at least a decade. As recently as 1996 Odlyzko predicted the demise of the printed scholarly journal in ten to twenty years. He contends that electronic resources will replace the printed word. Other authors vigorously refute such a claim (Crawford & Gorman, 1995; Crawford, 1998; Mason, 1998).

Young (1998) observed, 'the computer will not replace the book any more than the book has replaced speech'. He also contends that printed resources and digital media are not alternatives. This is an important distinction and forms a significant issue for librarians. Electronic sources of information are excellent for data which must be timely and is subject to frequent change, such as stock market data, weather reports, and population statistics. It is also valuable for the ease in which information such as full-text articles from newspapers and journals can be delivered. Printed resources may continue for a long time to be the most efficient form of delivering ideas and theories as opposed to data in subject areas such as history, philosophy, and literature.

In evaluating electronic sources of information there is also a distinction to be made between those sources of data which have been digitized for the speed and ease of transportation, and data which is of limited usefulness, volatile and fluid in nature. Mason (1998) likens the use of the internet in delivering documents such as journal articles to a 'very large omnipotent copying machine' where the value of the item is not inherent in its format but in the ease of its delivery to the user.

There are numerous free resources available on the web, to say nothing of the full-text journals now available. Whether or not to include these in the library catalogue is a challenge facing librarians in the virtual library environment. This issue became apparent at the University of Melbourne Library when a new single gateway connection from public access PCs to local CD-ROM networks, stand-alone databases and the internet was developed. The new gateway, named Buddy, created new challenges for the Library's selection policies(Cunnington, 1998).

3. To organize and structure information

Traditionally, librarians have organized and managed information resources through classification schemes. The retrieval of information relevant to a user's enquiry has been facilitated by standardized methods of describing resources, such as MARC. It is ironic that organizing vast quantities of information is becoming a demanding issue for those involved in the development of the internet. Mason (1998) noted that 'the more there is on the web, the harder it becomes to find ...' Microsoft, Sun Microsystems, and others are now developing indexing systems' the structure of which is closely aligned to the Dewey Decimal Classification scheme or the Library of Congress Classification scheme.

Many of the challenges facing those attempting to organize and structure information in the virtual environment is its nature. Ward and Wood (1998) note that one significant management problem in the networked environment compared to traditional library management issues, is coping with the nature of the 'information space'. They describe the information space as large and rapidly growing, highly distributed, of varying quality, and dynamic. Working with such resources requires an understanding of traditional library management issues, but also the ability to adapt these to the new environment, and even to go beyond these skills and develop new ways to organize and structure information. Garrod and Sidgreaves (1998) observed that professional boundaries between computing professionals and librarians are overlapping and becoming more blurred. For librarians to effectively organize and structure information available on the internet, they require more than basic IT skills.

The organisation and structure of information within the virtual library is critical to ensure the easiest path for the library user to access and use resources. Within the developing virtual library, users are presented with information resources in traditional formats but also in formats made possible through technological developments. Increasingly, libraries are providing access to web-based resources, either those freely available or for which the library has paid a subscription. It is essential that users can access all of these through a single interface, usually the library's catalogue. This provides what Lynch and Garcia-Molina (1995) describe as a 'superficial uniformity' for ease of navigation and access. New organizational tools are being developed to accommodate these issues: one of the most significant is metadata.

Cathro (1999) states, 'Integrated access to diverse materials is usually accomplished through services which allow the relevant metadata for all materials to be searched simultaneously'. The development of metadata was inevitable, given the enormous scale of information available through the web, and the need to be able to search and retrieve relevant material. Metadata has been defined by Iannella (1998) as structured data about data and is a format for describing an internet or digital information resource.

Metadata specifies the format for describing a digital resource in much the same way the MARC format specifies the descriptive elements of an item held in a library collection. Seven workshops have been held around the world to first define, and later refine, the core elements to be used in describing networked resources. The first, held in Dublin, Ohio in the United States in 1995, give the Dublin Core its name. The aim of this scheme is that the creators of internet resources can insert the descriptive data about their resources at the time of creation, and this will lead to an environment where the majority of resources available on the Internet are searchable using a standard scheme.

As Iannella (1998) states the 'key issue with metadata is interoperability'. It is a concept described by Lynch and Garcia-Molina (1995) as 'the ability of a user to access, consistently and coherently, similar ... classes of digital objects and services, distributed across heterogeneous repositories, with federating or mediating software

compensating for site-by-site variations'. In today's library environment, users are faced with a wide range of systems with different search interfaces and capabilities. It is essential that user interfaces be developed to make databases as accessible as possible to the user. Standards such as Z39.50 are being developed which allow users to search across multiple databases simultaneously.

Librarians have been at the forefront of metadata scheme developments. They have also contributed to the development and adoption of standards such as Z39.50. This requires a sophisticated level of understanding of the technical issues involved and is a further demonstration of Garrod's and Sidgreave's (1998) assertion concerning the blurring of distinctions between librarians and IT professionals.

4. To ensure the preservation of information

The issue of preservation in the new library environment is a complex one. Librarians and archivists have long-established standards and guidelines for the preservation and storage of print materials for long-term survival. The preservation of electronic and digital information resources creates new dilemmas for librarians and archivists.

As Klemperer and Chapman (1997) observe, digital media have not been around long enough for fail-safe archiving and preservation procedures to be developed. One of the significant issues affecting preservation of digital information resources is the very technology which creates them. These technologies have an increasingly rapid obsolescence and the preservation of digital information is dependent on ensuring that the software and the mediating technology is also preserved. Many research initiatives have been directed to the preserving of digital information resources. Cathro (1999) states:

The ability to access and read digital information in the future will depend on strategies such as migration (in which the data is migrated ... to new operating systems and data structures) or emulation (in which modern computers emulate the operating systems and data structures of previous eras).

In tandem with developments in preserving digital information resources is the issue of preserving digital resources available on the internet. Berthon and Webb (2000) describe preservation developments with web-based resources so that they remain findable. 'URLs serve to identify resources and describe their location on the World Wide Web, but they are notoriously unreliable as they must change whenever a digital resource moves to a new location'. Methods of providing persistent and comprehensive resource discovery on the internet are being explored and librarians are playing an important role in these initiatives.

5. To provide specialized staff to offer instruction and assistance in interpreting resources and access to resources

Information retrieval is the most obvious skill a librarian demonstrates to the public. The increasing sophistication of search engine design is creating an environment where anyone can, at varying levels of efficiency retrieve information from the internet. It has been suggested that the skills of the reference librarian are becoming superfluous (Odlyzko, 1996). However, without professional guidance many searchers, particularly novice internet-users, do not exploit the full potential of search engines and consequently do not retrieve all the relevant information available to them. Pollock and Hockley (1997) examined the use of the internet by internet-naïve but PC-literate users and concluded that to execute successful searches, internet users need at least a basic understanding of internet searching concepts, but also very high levels of support - from a librarian or other experienced internet searcher.

McMillan (2000) notes that within the university environment, undergraduate students can be seduced by the convenience of information available through the internet, and the intervention of the librarian, can teach the difference between intellectual access and electronic access. She observed that librarians 'teach information discrimination through personalized research assistance, guidance, and instruction'.

Librarians working at integrating new technologies to form the virtual library are discovering an increasing demand for their professional skills. Cunnington (1998) describes the experience at the University of Melbourne in creating a single electronic gateway to the university library's plethora of electronic information resources. One of the documented outcomes of the introduction of the new gateway included greater and more sophisticated demands by

users, and a greater emphasis for customer service staff in the selection of electronic resources and instruction of users.

McMillan (2000) observes that the librarian 'makes a significant contribution, often defining the search, honing the researcher's goals, and helping the researchers to understand their needs'. She believes the value of human expertise, judgment and empathy are integral to the development of the electronic library environment. Wood and Walther (2000) also noted that rather than rendering the librarian obsolete, 'the digital revolution has made librarians all the more essential'. Hawkins (1998) observed that as the information explosion continues, everyone will need more help finding, sorting and filtering the available material.

The virtual library environment provides both an opportunity and a requirement for librarians to develop greater familiarity with IT-type skills. Garrod and Sidgreaves (1998) conducted research in the United Kingdom on the impact IT is having on the skills required of librarians working in the electronic and networked information resources environment. They concluded that staff working in different areas of university libraries required different skills. Paraprofessional staff required practical 'hands on' experience and training. Librarians are moving into database development, courseware, open learning and academic staff development and need a combination of knowledge, skills, aptitudes, and personal qualities in order to fill their multi-faceted roles.

Conclusion

The aims of the current 21st century workforce initiatives are highly consistent with the overall goals of instruction librarians to enhance patrons' ability to learn, to think critically, to communicate effectively and to skillfully leverage technology.

The current state of academic libraries and the issues they face in a Web 2.0 world will continue to be crucial to the core processes of learning, teaching, and research as long as key library structures, processes, services, and staff roles evolve to accommodate the changes occurring in publishing and communications.

Libraries must actively embrace the changes in the information environment to stay relevant in the 2.0 world. The library services and staff must transition from their inherited position as the mediators of a print-based, highly controlled environment to become collaborators in a multimedia-rich, User-empowered, disinter mediated free-for-all where their value will be proven only by demonstrably improving outcomes in learning, teaching and research. Libraries must be integral to the learning, teaching and research activities in order to assert their continuing value to the institution.

One thing for sure, all these changes, trends, and new developments, imply newcompetencies, new skills, new knowledge to be acquired by librarians andgraduates of "Library &Information Science" schools. The curriculum and thecontinuous professional development programs for librarians should be designedto prepare and equip the profession to face these issues and challenges.

Acknowledgement

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