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International variety

Stephen Parker

The papers in this issue present a varied and thoroughly international view of several aspects of library and information management and services.

The first paper, 'The death of the Right to Information Bill in Botswana', by Emmanuel Kopang Botlhale and Kaelo Molefhe, adopts a rights-based approach to argue that the right to information is a fundamental human right. Right to Information (RTI) covenants and acts facilitate the availability of information, but the developing world lags behind in this regard. Botswana does not have a RTI Act, and a bill designed to correct this was rejected by parliament in April 2012. The paper draws three general lessons emerge from this case, including the need for non-state actors to lobby and advocate for democracy-enhancing legislation such as the RTI Act.

The second paper, by Zahiruddin Khurshid, considers the problems associated with 'Non-librarians as managers: the case of state university libraries in Saudi Arabia'. It defines 'non-librarians' in this context and asks whether they are suitable for high profile academic positions in state university libraries in Saudi Arabia. Non-librarians with no library credentials face difficulties in managing libraries efficiently, and the paper suggests that university administrations should send highly motivated librarians for doctoral programs at leading library schools in North America and Europe, replacing all non-librarians with these candidates when they return with their professional qualifications.

We move further East with the next paper, 'Knowledge sharing behaviour influences: a study of Information Science and Library Management faculties in Bangladesh', by Md. Anwarul Islam, Mitsuru Ikeda and Md. Maidul Islam. This study aims to measure the knowledge sharing behaviour of information science and library management educators in Bangladesh. The researchers found a significant relationship between the attitude of educators toward knowledge sharing and their intention to share knowledge. It is believed that the findings will assist knowledge managers charged with the design of flexible knowledge sharing systems.

Still in South Asia, the next paper, 'Establishment of the Election Commission Library in Nepal', by Ramesh Prajuli and Susan Garner, describes how the development of democracy in Nepal has seen the inauguration of a unique library in Kathmandu under the auspices of the Election Commission Nepal. With the assistance of international agencies, the library centralized old archives into a new building, developed new policies, trained staff and is actively seeking to broaden its clientele to reach beyond the city boundary in the interests of promoting democratic processes in this former monarchy.

To Central Asia next, with 'The information economy of Turkmenistan: A seven-year update', by John V. Richardson Jr. The paper organizes issues related to the information economy in Turkmenistan using the STEPE model (social, technical, economic, political, and ecological matters). Such an analysis gives insight into the likely future of the information economy in this country. Many of the observations focus on contrasts rather than similarities since the Presidential library ban of June 2005, as reported in IFLA Journal in a previous paper by this author.

A concern with the education sector is reflected in the last two papers. In 'Enhancing awareness of science, technology, engineering and mathematics (STEM) in school libraries: a Jamaican case study', Sasekea Harris documents strategies that can be used to enhance Science, Technology, Engineering and Mathematics (STEM) awareness in academic libraries. A case study approach revealed six strategies that academic librarians can implement targeting users, non-users and staff. This is the first publication on the initiatives of a Jamaican academic library in promoting the STEM concept.

The final paper, 'Establishing information literacy principles as a foundation for cross-curricular scholarly investigation in England', by Andrew K Shenton, notes that a fundamental problem with the educational system in the United Kingdom is that the subject-based emphasis of the curriculum leads to a separation in the teaching and learning of related skills. This paper constructs a meta-model that unites material currently dispersed across England's National Curriculum, and draws on the totality of the assembled content to outline a series of generic skills. The structure helps information professionals to recognize areas where their particular interventions will be most beneficial in terms of promoting information literacy and skills of interest to subject practitioners.

Article

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The death of the Right to Information Bill in Botswana

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Abstract
Adopting a rights-based approach, this paper argues that the right to information is a fundamental human right. Hence, governments are obligated to make information available to citizens by signing Right to Information (RTI) covenants and acts to facilitate the availability of information. The developing world lags behind in this regard and, similarly, Botswana does not have a RTI Act. Efforts to correct this were killed in April 2012 when the RTI bill was rejected. This was a regressive step; hence, Botswana failed the democracy test. Hence, reason must triumph over partisan politics for the bill to be passed. Finally three general lessons emerge from this case; (i) in dominant party systems, legislation reflects the interests of the ruling party; (ii) the need to strengthen parliaments in dominant party systems to entrench democracy; and (iii) the need for non-state actors to lobby and advocate for democracy-enhancing legislation such the RTI act.

Keywords
right to information, human rights; legislation, political influence, Botswana

Introduction

It is commonly held that democracy and transparency are complements; that is, as public goods, they are consumed together (Democracy Web 2012; Luhtanen 2006; Shapiro 2003; Rosendorff et al. 2011). On a confirmatory note, James Madison, in a letter to W. T. Barry on 4 August 1822, stated that 'a popular Government without popular information or the means of acquiring it, is but a Prologue to a Farce or a Tragedy or perhaps both. Knowledge will forever govern ignorance, and a people who mean to be their own Governors must arm themselves with the power knowledge gives'' (Democracy Web 2012: paragraph 1). At the same time, Democracy Web (2012: paragraph 2) underscores the complementarities between the two, stating:

> In a democracy, the principle of accountability holds that government officials–whether elected or appointed by those who have been elected–are responsible to the citizenry for their decisions and actions. Transparency requires that the decisions and actions of those in government are open to public scrutiny and that the public has a right to access such information. Both concepts are central to the very idea of democratic governance. Without accountability and transparency, democracy is impossible. In their absence, elections and the notion of the will of the people have no meaning, and government has the potential to become arbitrary and self-serving.

Barrack Obama (2009a:1) and Farrukh Saleem (2010:1) confirm the above position. Obama holds that ''a democracy requires accountability, and accountability requires transparency''. Similarly, Saleem states that ''transparency is the mother of democracy. Two things: first, there can't be democracy without transparency. Second, democracy can't allow the murder of her own mother''.

Amongst others, the RTI legislation, a requisite for the exercise of democracy (Organization of American States 2003), is used to beget transparency. Thus, open societies pass RTI laws and, as of January 2012, at least 90 countries have done so (Right2INFO 2012). How does RTI legislation enhance transparency? Political theory holds that man (i.e., a human person) was born free and, therefore, possesses natural rights (Hobbes

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1665). However, life under a state of nature was untenable; it was solitary, poor, nasty, brutish and short (ibid.), hence, man surrendered his/her natural rights to a sovereign in return for, amongst others, protection from internal and external enemies. Hence, man and the sovereign entered into an agreement, commonly known as the social contract (Hobbes 1665; Locke 1689; Rosseau 1789). It is important to note that although man surrendered his natural rights to the sovereign, this does not mean that the former is subservient to the latter. Ceteris paribus, the opposite is true; the former is senior to the latter. In other words, the citizens and government have a principal-agent relationship; the former and latter being principal and agent respectively. Under this relationship, the agent acts on behalf of the principal and, in the process, accumulates lots of vital information. Worthy of mention, the government holds the information on behalf of the public, thus, public organizations are expected to provide access to the information subject to public interest limitations; e.g., state security. Thus, RTI laws institutionalize the right to information and engender transparency. Hence, Article 19 (1999) emphasizes the centrality of information, saying:

> Information is the oxygen of democracy. If people do not know what is happening in their society, if the actions of those who rule them are hidden, then they cannot take a meaningful part in the affairs of that society. But information is not just a necessity for people – it is an essential part of good government.

Freedom of information is provided under Article 19 of the Universal Declaration of Human Rights which defines it as the freedom to "seek, receive and impart information and ideas through any media and regardless of frontiers" (United Nations 1948). Thus, "freedom of information is the principle that organizations and governments have a duty to share or provide ready access to information they hold, to anyone who wants it, based on the public's right to be informed" (UNESCO 2011). It is legitimately expected that governments facilitate the access to information through the promulgation of RTI Acts and also the signing and ratification of supranational RTI convenants. Sweden is the pioneer because she passed the RTI Act in 1766, followed by Finland in 1951 and the US in 1966. Afterward, there was an explosion in the passage of RTI laws; however, Africa has largely lagged behind (Dimba 2008; UNESCO 2008). Thus, only eight countries; Angola, Ethiopia, Guinea Conakry, Liberia, Nigeria, South Africa, Uganda, Zimbabwe, have explicit RTI laws (Right2 Info 2012). However, it is notable that the Zimbabwean RTI Act has been diluted by countermanding acts, particularly the Access to Information and Protection of Personal Privacy Act (2002), as to render it a good example of a bad RTI law (see Banisar 2006; Darch and Underwood 2010). Similarly, Botswana does not have a RTI Act save that section 12 of the Constitution of Botswana guarantees the freedom of information. Notably, while the Constitution guarantees the freedom of information, it does not grant access to same (Ndlovu 2012). However, this state of affairs was set to change with the tabling of a RTI bill in April 2012 (Botlhale 2012a; 2011). Since the bill was tabled by an opposition legislator, it was subjected to partisan debate that ensured its death. Given the topicality of this bill, the BDP (Botswana Democratic Party) scored an own political goal. Therefore, if Botswana is to live up to its image of an exemplary democracy in Africa, the RTI Bill must be brought back to parliament soon.

Given the topicality of the RTI bill, it is important that it be part of public discourse. Laudably, members of the public, particularly non-state actors, have dialogued on this matter. Particularly, the public's interest grew after the rejection of the RTI bill by parliament on 16 August 2012 (Botswana Press Agency 2012a). However, the matter does not find treatment in the Botswana-specific literature. Hence, this paper intends to contribute to debates on this important piece of legislation.

Having laid the above background, the paper proceeds as follows. Firstly, it discusses the international underpinnings of RTIAs; secondly, it discusses the importance of RTIAs; thirdly, it discusses attempts to introduce the RTI bill in Botswana and actions to kill the bill; and fourthly, it discusses lessons learnt from the RTI case and concludes.

The external context of RTI

Freedom of information is a fundamental right (Banisar 2011; Björkstrand and Mustonen 2006; Mendel 2008, 2003; Sendugwa 2011a). Hence, in its first session in 1946, the UN General Assembly adopted Resolution 59(I) stating; "freedom of information is a fundamental human right and . . . the touchstone of all the freedoms to which the United Nations is consecrated" (United Nations 1946). On 10 December 1948, the same body adopted the Universal Declaration of Human Rights (UDHR). Article 19 underscores the sanctity of the freedom of information. It states that "everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and

impart information and ideas through any media and regardless of frontiers" (United Nations 1948). This was followed by the UN General Assembly's Resolution 2200 A (XXI) on 16 December 1966 (went into force 23 March 1976) on the International Covenant on Civil and Political Rights (ICCPR). The ICCPR enjoins signatories to respect a number of human rights set out in the UDHR. Notably, Article 19 of the ICCPR, just like the UDHR's Article 19, is concerned with the right to freedom of opinion and expression. Thus, Article 19 of the ICCPR states that "everyone shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of his choice" (United Nations 1966).

The Commonwealth is also a champion of the RTIAs. To illustrate, the issue of access to information was first explicitly expressed within the Commonwealth grouping in 1980 when the Council of Law Ministers met in Barbados and issued a statement affirming the centrality of the RTIA. Thus, the Council stated that in "public participation in the democratic and government process was at its most significant when citizens had adequate access to information" (Commonwealth Human Rights Initiative 1980: paragraphs 24–25). Afterward, in March 1999, the Commonwealth convened an Expert Group on freedom of information which confirmed that;

> Freedom of information should be guaranteed as a legal and enforceable right permitting every individual to obtain records and information held by the executive, the legislative and the judicial arms of the state, as well as any government owned corporation and any other body carrying out public functions (Commonwealth Secretariat 1999:30– 31).

Afterwards, the Commonwealth Freedom of Information Principles and Guidelines were developed. Consequently, the Commonwealth recommended that its members pass RTIAs based on the principles of disclosure, promoting a culture of openness, limited exemptions, records management, and a right of review. Finally, in 2003, the Commonwealth Secretariat issued a model RTI bill that was based on RTI laws in Canada, Australia and other Commonwealth countries (Banisar 2006).

Then Organisation of the African Unity placed a high premium on RTI legislation, particularly, Article 9 of the African Charter on Human and Peoples' Rights. Similarly, the African Union's (AU) Commission on Human and Peoples' Rights adopted a Declaration of Principles on Freedom of Expression in Africa in October 2002 during the 32nd Session, 17–23 October 2002, in Banjul, The Gambia. The Declaration reaffirms Article 9 of the African Charter on Human and Peoples' Rights. Article IV (Freedom of Information) of the Declaration is instructive; (1) Public bodies hold information not for themselves but as custodians of the public good and everyone has a right to access this information, subject only to clearly defined rules established by law. Similarly, (2) states that the right to information shall be guaranteed by law in accordance with some of the following principles: everyone has the right to access information held by public bodies; everyone has the right to access information held by private bodies which is necessary for the exercise or protection of any right; and that public bodies shall be required, even in the absence of a request, to actively publish important information of significant public interest (African Union 2002).

In addition, there is the African Union's African Charter on Democracy, Elections and Governance which was adopted at the AU Assembly of the AU on 30 January 2007. One of its objectives is the promotion of the establishment of the necessary conditions to foster citizen participation, transparency, access to information, freedom of the press and accountability in the management of public affairs (African Union 2007).

Finally, the Southern African Development Community (SADC) has not lagged behind in promoting the RTI cause. The SADC Council of Ministers met in Johannesburg, from 25 to 26 August 1995, and adopted the SADC Declaration on Information and Communication in Building the Southern African Development Community. In this regard, article 1 of the Declaration provides that

> All Member States shall promote balanced dissemination of information, within the context of Community building, and shall not impede freedom of speech nor impede the freedom of expression of the peoples of the community (Southern African Development Community 1995: article 1).

Subsequently, six SADC countries explicitly guaranteed the right to information within their constitutional framework; South Africa, Malawi, Mozambique, the DR Congo, Tanzania, and Madagascar. Eight other SADC countries, being Botswana, Lesotho, Angola, Zambia, Mauritius, Zimbabwe, Namibia, and Swaziland, have only protected this right within the context of the broader right of freedom of expression which normally includes the right to "seek, receive and impart information" (Dimba 2008:3).

Benefits of RTI legislation

Ever since Sweden passed the first RTI law in 1776 (Anders Chydenius Foundation 2006), there has been an explosion in the passage of same in the 20th century. Despite some regions, particularly Africa, lagging behind (Gender Links 2011; Open Society Foundation 2011; Sendugwa 2011b; UNESCO 2008), there is a consensus on the benefits of RTIs. Some of them are:

- Making governments more transparent and accountable to the people; increasing people's participation and involvement in public life and their own governance;
- Making private sector actors more accountable and responsive to the needs of the communities they work in and to respect their human rights particularly the right to development;
- Improving the capacity of institutions to minimize and expose corruption in all its numerous forms including nepotism;
- Improving the processes of decision making as factual information and quality data inform the choice of priorities and resource allocation decisions:
- Exposing human rights violations and ensuring that the perpetrators are made accountable; and
- Making it easier to promote workers' rights and negotiating for better terms of service especially for women employees to achieve the work/social life balance (FEMNET 2009:3 – see also Article 19 [2005]; Banisar [2006]; and UNESCO [2011]).

Thus, it is important for governments to place a high premium on transparency as advised by Obama (2009b). He said, 'information maintained by the Federal Government is a national asset. My Administration will take appropriate action, consistent with law and policy, to disclose information rapidly in forms that the public can readily find and use (ibid. paragraph 2).' In order to serve a useful purpose, RTI laws should be geared towards international principles and best practice (Puddephatt and Zausmer 2011). Currently, there are no universal principles; however, Article 19, a non-state organization, has developed a set of nine principles to address this deficiency. These are: (1) Freedom of information legislation should be guided by the principle of maximum disclosure; (2) Public bodies should be under an obligation to publish key information; (3) Public bodies must actively promote open government; (4) Exceptions to the right to access information should be clearly and narrowly drawn and subject to strict 'harm' and 'public interest' tests; (5) Requests for information should be processed rapidly and fairly and an independent review of any refusals should be available; (6) Individuals should not be deterred from making requests for information by excessive costs; (7) Meetings of public bodies should be open to the public; (8) Laws which are inconsistent with the principle of maximum disclosure should be amended or repealed; and (9) Individuals who release information on wrongdoing – whistleblowers – must be protected (Article 19 1999).

Thus, at a minimum, governments are expected to formulate their RTI laws with regard to this framework.

Pro-active vs. reactive disclosure

Members of the public can access public information in four ways; (i) the information is voluntarily provided by those who possess it (pro-active disclosure or push model); (ii) when members of the public request and receive the information from those who possess it [reactive disclosure or pull model] (Darbishire 2010; Xiao 2010); (iii) leaks from whistleblowers and others (for example, cables from Wikileaks); and (iv) open public meetings where information is discussed and released in a public venue (Piotrowski and Van Ryzin 2007). In this regard, the first two, pro-active and reactive disclosures of information, are provided under RTIAs (Ruijer 2012), hence, these will be discussed since the focus of this paper is on the RTIA.

Oftentimes, a question arises, 'which is better? Pro-active or reactive disclosure?' There is a near consensus that pro-active is superior to reactive disclosure because it offers an array of benefits. Principally, it results in pro-active transparency which can be given effect through varied ways: (i) publications and official gazettes; (ii) public notice boards; (iii) radio and television announcements; and (iv) Internet postings via a website of a public institution (Darbishire 2010). Thus, pro-active disclosure is favoured by democracies that have model RTIAs. Amongst other things, it addresses the accountability deficit; increases in governmental power unaccompanied by increased accountability (e.g., see Roberts 2006 on this term). Pro-active disclosure confers a lot of benefits to countries that have such a provision in their RTIAs. Some of them are;

(i) Limiting corruption: Publishing information about government actions and spending puts government and public officials under the constant watch of the public, allowing them to track what resources are spent, who contracts

are awarded to and so on (Puddephatt and Zausmer 2011:6).

(ii) The rule of law: Proactive disclosure ensures that members of the public are informed about the laws and decisions that affect them and contributes to the rule of law (Darbishire 2010:3).

(iii) Accountability; it facilitates more accountable spending of public funds and promotes integrity in government (ibid.).

(iv) Decision-Making; disclosure of data and policy documents ensures that the public has the information needed to participate in policy- and decision-making (ibid.).

(v) Accessing Government Services; dissemination by public bodies of information about how they function helps the public access government services (ibid.).

(vi) Information Management; a further benefit of proactive disclosure is that it encourages better information management, improves a public authority's internal information flows, and thereby contributes to increased efficiency (ibid.).

RTI legislation in Botswana

There is an explicit appreciation of the significance of a RTI law as instanced by members of the public demanding that same be included in Botswana laws during public meetings of the 1997 Presidential Task Group on Vision 2016 [Botswana's long term vision] (Republic of Botswana 1997). The Task Group carried out a series of consultations where citizens were invited to make submissions on their aspirations for the future (ibid.). At the end of process, the government formulated Vision 2016; Towards Prosperity for All, the long-term vision for Botswana; a strategy to propel its socio-economic and political development into a competitive, winning and prosperous nation to be achieved by year 2016 (Botswana Vision 2016 Council, 2010). The Vision was launched by the then president, Ketumile Masire, on 30 September 1997 and the document has been distributed to all stakeholders in the country for implementation.

The Vision is based on seven pillars and Pillar One is 'An Educated, Informed Nation'. In order to realize An Educated, Informed Nation, ''Botswana must introduce a freedom of information act to protect the rights of citizens to obtain and use information'' (Botswana Vision 2016 Council, 2010:5). Despite the government's avowal to pass a RTI law, this did not happen, hence, this actuated some to call for its passage. For example, in 1999, the Botswana Media Consultative Council (BMCC) offered to help the government to craft a RTI law. The BMCC argued that we ''would expect that any RTI legislation will be drafted so as to encourage more open and accountable government by establishing a general statutory right of access to official records and information'' (Botswana Media Consultative Council, 1999: paragraph 3). Thus, it argued that the RTI law would provide Batswana with a new and fundamental right; The Right to Know. Unfortunately, its offer fell on deaf ears.

On 25 August 2006, then MP for Lobatse, Nehemiah Modubule, called for the introduction of the RTI Act when he was debating the Information Policy in parliament (Botswana Press Agency, 2006). Modubule asserted that the RTI act would ensure that the public had access to information. Although Modubule's motion elicited no response from the government, it, nonetheless, prompted a response from the Commonwealth Human Rights Initiative (CHRI). Then CHRI Director, Maja Daruwala, wrote a letter to then president, Festus Mogae, on 8 September 2006. The letter read:

> ''I wanted to take this opportunity to underline Mr. Moubule's calls to pass an Information Act as a key step towards promoting public accountability and good governance in Botswana. I also wish to offer the support of CHRI's RTI team to assist with any move by your Government to develop a national Freedom of Information law, including drafting a Bill that accords with best practice openness principles . . . '' (Commonwealth Human Rights Initiative 2006).

The letter advised Mogae to pay heed to the following instruments when his government crafted the RTI law: (i) CHRI's 2003 Report, Open Sesame: Looking for the Right to Information in the Commonwealth; (ii) Article 19's Principles on Freedom of Information Legislation; (iii) AU Commission on Human and People Rights' Resolution on Freedom of Expression (2001); and (iv) Commonwealth Freedom of Information Principles (1999). Apparently, the government did not pay heed to this advice because it never attempted to pass a RTI act.

Finally, the Ombudsman (Republic of Botswana, 2008) and non-state actors; e.g., the Media Institute of Southern Africa [MISA] (Botswana chapter), exhorted the government to pass a RTI law. Despite multiple exhortations, the government was, nonetheless, not galvanized into action because the RTI bill did not enter the public policy-making agenda until mid 2010. Thus, in July 2010, MP Dumelang Saleshando requested parliament to allow him to table a RTI bill as a private member's bill.

On 8 July 2010, the National Assembly resolved, in terms of Standing Order 60(2), to allow Saleshando to bring before parliament a private member's bill allowing for the enactment of a RTIA (Republic of Botswana, 2010). Subsequent to parliament granting Saleshando the permission to present the RTI bill, he worked with various stakeholders, including the office of the Attorney General, to craft the bill. Thus, on 21 April 2011, the bill was discussed at a stakeholders' meeting organized by the Media Institute of Southern Africa (MISA) (Botswana chapter) (Motseta, 2011). After the conference, a task force of civil society activists comprising Botswana Secondary School Teachers Union's Executive Secretary, a former MISA-Botswana National Director, a university lecturer, a gender activist and freelance journalist, was selected to assist in fine-tuning the RTI bill (ibid.). Notably, the task force was supposed to work hand in hand with Saleshando and the latter was tasked with presenting it in parliament in July 2011. At the same time, the bill benefited from RTI experts such as Article 19, which stated that it welcomed the bill but noted the following concerns:

> Firstly, the complete absence of any provisions establishing an institutional oversight mechanism which would support the implementation of the draft law, such as an Information Ombudsman or Commissioner. Secondly, the draft law does not apply to the judiciary, and only applies to certain public authorities, the President and Commissions of Inquiry appointed by the President. Thirdly, the draft law contains a long and elaborate list of documents that are exempted from the principle of disclosure . . . (IFEX 2011: paragraph 2).

In consequence, Article 19 advised that the RTI bill provide for the establishment of the office of an Information Commissioner/Ombudsman to resolve disputes concerning the right to information. In addition, it recommended that the bill should cover all branches of government, including the executive arm of the government (notably, the President), the legislature, judiciary and Commissions of Inquiry. Finally, that the draft law should also provide that information may not be exempted unless the legitimate interest protected is greater than the public interest in disseminating the information (ibid.). Similarly, the bill was subjected to a comprehensive review by Professor Rick Snell, a RTI expert of the University of Tasmania Law School, and he made some several suggestions in order to improve the bill (Mosikare, 2011).

After fine-tuning, the bill was finalized and it aimed to extend the right of members of the public to access information in the possession of public authorities by:

(a) making available to the public, information about the operations of public authorities and, in particular, ensuring that the rules and practices affecting members of the public in their dealings with public authorities are readily available to persons affected by those rules and practices;
(b) creating a general right of access to information in documentary form in the possession of public authorities, limited only by the exceptions and exemptions necessary for the protection of essential public interests and the private and business affairs of persons in respect of whom information is collected and held by public authorities; and
(c) creating a right to bring about the amendment of records containing personal information that is incomplete, incorrect, misleading or not relevant to the purpose for which the document is held (Republic of Botswana 2010).

The other parts of the Bill are next summarized. Part II of the Bill provided for the right of access to information. Part III of the Bill provided for the publication of certain documents and information by public authorities, including the requirement that certain documents are to be made available by public authorities for inspection and purchase (clause 22). Part IV of the Bill dealt with the categories of exempt documents (e.g. Cabinet documents). Finally, Part V of the Bill dealt with miscellaneous matters (e.g. the duty of public authorities to act in good faith; the correction of personal information (clause 39) and the right to apply for judicial review of an authority's decision (ibid.).

Due to timetabling issues, the bill was not tabled during the July sitting of parliament as Saleshando had intended. Neither was the bill tabled during the November sitting. However, it was finally tabled during the February-April 2012 session. Debates got underway but were abruptly adjourned on 5 April when Mahalapye East MP, Botlogile Tshireletso, tabled a motion seeking an adjournment of the discussions to allow for more consultation and clarification of certain clauses (GabzFM 2012a; Makgapha 2012a). Notably, Tshireletso was supported by a majority of MPs, mostly from the ruling BDP. In essence, they argued that they were not against the bill per se. Hence, they did not declare it DOA (Dead on Arrival); rather, they objected to certain provisions which they believed could be corrected (Botswana Press Agency 2012b). Expectedly, the bill's mover, Saleshando, stated that he was disappointed by the postponement and argued that the bill was properly

crafted because he and the taskforce facilitated workshops with regional experts on RTI legislation (Makgapha 2012b). Thus, he stated that the reasons advanced for the postponement were "misplaced," and that "the Bill does not protect personal and commercial information held by government was baseless as those issues are addressed in the Bill" (ibid.). While one may not want to arrogate malice on efforts to adjourn debates on the RTI bill, it is perhaps worrying that, reportedly, a document bearing no official seal was exclusively circulated to BDP MPs with the intention to encourage them to reject the Bill (GabzFM 2012b; Makgapha 2012b). To date, the author of the said document is unknown but it is undeniable that the document was circulated to BDP MPs.

After the rejection of the bill, Saleshando re-worked it to address key concerns raised by some BDP MPs. Thus, he re-tabled the bill during July sitting (Makgapha 2012c). It was rejected by parliament on 16 August with 34 MPs (presumably, all BDP) voting against it (Botswana Press Agency 2012a; Moeng 2012). Notably, the BDP MPs who stated that they did not object to the bill in April suddenly found fatal faults with it. For instance, some objected to it because it did not define key terms such as public interest. Faulting the bad drafting of the bill, MP Phandu Skelemani, a former Attorney General, asserted that it did not conform to the government's style of writing laws and also pointed out a few clauses which he termed as "contradictory and illogical" (Seretse 2011:8). In addition, he charged that the bill was drafted with the help of foreigners. Finally, one BDP MP, Guma Moyo, asserted that the office of the Attorney General advised him to reject the bill because it was bad and that it would encroach into other laws (ibid.). Thus, due to politics, the BDP MPs threw out the baby with the bathwater. Reportedly, the BDP will table a friendly RTI bill and also pass a RTI-undermining instrument in the form of a Data Protection Act (Makgapha 2011d). Notably, the envisaged Data Protection Act will have the same effect as Zimbabwe's Access to Information and Protection of Personal Privacy Act (2002) and South Africa's Protection of State Information Act (2012).

The rejection of the bill signalled the end of the road for Saleshando; the BDP killed the bill. Beyond parliament, non-state actors, e.g. MISA-Botswana, expressed their disappointment with the rejection of the bill (Mmegi 2012).

However, the RTI imbroglio is typical of BDP politics; killing bills that do not find favour with it. Examples abound: rejection of a bill on the declaration of assets and liabilities by all national leaders tabled by Dumelang Saleshando in 2010 (Gabathuse and Motlogelwa 2010; Botswana Press Agency 2010a,b,c,d) and motion on the amendment of sections 77-79 of the Botswana Constitution by opposition MP Maitshwarelo Dabutha in 1988 (it later accepted the motion when it was tabled by one of their own, Olifant Mfa, in 2005).

Lessons learnt from the aborted RTI bill

There are three key lessons that can be learnt from the RTI bill debates. Firstly, in dominant party systems, parliament passes laws that reflect the interests of the ruling party or, specifically, the executive arm of the government (see also Botlhale 2012b). Thus, parliament is weak and subject to the whims and caprices of the executive. This is best instanced by debates surrounding the motion calling for the declaration of assets and liabilities by national leaders. Dismissing the motion tabled by Dumelang Saleshando, then Leader of the House and Vice President, Mompati Merafhe, told parliament that the government would table a law on the disclosure of assets and liabilities that would suit the BDP's interests (Botswana Press Agency 2010a). Instructively, he said; "as the majority party in Parliament, BDP will continue to dictate terms in the House" (ibid.:4).

Secondly and arising from the above, there is a need for constitutional review in dominant party systems. The review is imperative to, among others, create a highly independent legislature along the US model to circumscribe the powers of the executive. In most instances, the executive is loth to account to the public through parliament. As a result, it does all in its power to engender secrecy by blocking RTI legislation. In cases where the RTI law already exists, it passes a countervailing law, as South Africa did with the passage of the Protection of State Information Act (2012). The Act has the effect of diluting an otherwise good RTI law. This happens because the parliament is dominated by the African National Congress. Hence, if parliament is independent, it can deepen democracy by, among others, passing RTI laws and rejecting state data protection laws.

Thirdly, non-state actors have a duty to advocate and lobby for democracy-enhancing laws, particularly in a situation where there is an unequal relationship between parliament and the executive. In this case, they must take the lead in the passage of RTI laws. In the case of Botswana, most non-state stators adopted a reactive stance towards the promulgation of the bill. Thus, their voices were heard after the rejection of the RTI bill by parliament. Had they been proactive, for instance by sponsoring the legislation and also lobbying the nation, the outcome, perhaps, would have been different. Thus, although the BDP has a habit of rejecting bills that are not in its favour,

it is not entirely impermeable to public opinion. That is, non-state pressure could have softened its stance.

Conclusion

The right to information is a fundamental human right, hence, governments are obligated to make information available to citizens. This is done through the passage of RTIAs. Largely, the developing world, particularly Africa, lags behind in this regard. Similarly, Botswana does not have a RTIA. However, this state of affairs was set to change with the tabling of a RTI bill in April 2012. The bill was subjected to partisan debate. The alleged imperfections of the RTI bill notwithstanding, the rejection has varied socio-economic and political costs, particularly reduced transparency. Hence, it is important that reason triumph over politics, thus allowing Botswana to join progressive democracies that value the importance of RTIAs. Surely, this cannot be achieved through a BDP-friendly RTI act and under retrogressive acts such as the Media Practitioners Act (2009), Intelligence and Security Act (2007) and National Security Act (1986). Hence, there is a need for a proactive RTI act, to ensure transparency and burnish Botswana's democratic credentials. Luckily, Botswana is favourably circumstanced; she can copy RTI best practices from the Commonwealth and beyond (mainly the USA) and Sweden.

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Non-librarians as managers: The case of state university libraries in Saudi Arabia

Zahiruddin Khurshid

Abstract

This article defines non-librarians, also called accidental librarians, or non-degreed librarians, identifies their categories according to the nature of jobs, and whether they are suitable for managerial positions, particularly the high profile academic position of the Dean of Library Affairs at state university libraries in Saudi Arabia. Non-librarian deans having no library credentials face a lot of difficulties in managing libraries as efficiently as a librarian dean would have managed. The management styles of non-librarian deans are also discussed to present how much they differ from those of librarian deans. The paper also suggests that the university administration should prepare a group of highly motivated librarians and send them on scholarships to library schools famous for their doctoral programs in North America and Europe. Once they get their PhD degree, bring them back and replace all non-librarians with them as the current practice of appointing non-librarian is affecting libraries negatively.

Keywords

university libraries, non-librarians, library managers, Saudi Arabia

Introduction

Non-librarians may be defined as those who have earned degrees in subject areas other than library and information science (LIS), and are working on various jobs in libraries. Since a significant number of them come into this field by accident and not by planning or intention, McKellar (2008) calls them "Accidental librarians". Those, while working as student assistants or employees, who have "absorbed the skills, knowledge base and library overview that sum up librarianship" are called "non-degreed librarian" (Santamaria, 2004). For many decades, libraries have hired non-librarians with an undergraduate degree in another subject as support staff. The application of information technology in libraries, among other things, has also brought significant changes in the nature of library jobs and the qualifications and skills required for performing them. Libraries are now hiring more non-librarians in the following three job categories:

1. Paraprofessionals

The staff in this category are those who generally work under the supervision of professional librarians. They receive on-the-job training and get continuous guidance from their immediate supervisor on the spot. With some training and experience, they gradually become more independent in their jobs, but still remain under the supervision of a librarian for as long as they do not earn a Master's degree in LIS. Scherrei (2000) sees a distinct role for non-librarians as support staff. The bulk of routine work, from ordering to checkout of books, is done by paraprofessionals. Copy cataloguing, which is more than 95 percent of total cataloguing, is done by the same people. It is true that because of them, librarians are now able to concentrate more on their professional work. That is why libraries hire more paraprofessionals than professional librarians. Acknowledging the importance of support staff, *Library Journal* has initiated an annual

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award-*Paraprofessional of the Year Award* - for them (Paraprofessional, 2011).

2. Non-MLIS professionals

The fast developments in information technology are affecting all walks of life, including libraries. Virtual libraries have completely changed the scenario of library operations and services. The library nomenclature is changing and many new terms are replacing the old ones, such as Cataloger, now known as Metadata Librarian and Knowledge Organizer, and User Services Librarian, now known as Access Librarian. Even Librarians are called by variant titles, such as Information Professionals, Cybrarians and Knowledge Managers. Some new job titles included in the *ALA job list* (American Library Association 2012) are Web Librarian, Digital Initiatives Librarian and Digital Curation Librarian. Breitkopf (2011) has come up with a list of 61 jobs for librarians. Almost none of them actually has the word 'librarian' in the title. These changes indicate how much we have moved away from the original concept and philosophy of LIS. These modified and newly created positions require an MLIS or an equivalent degree in the related subject area, such as Information Science, Computer Science, or Management Information Systems, but those who are non-MLIS must have much longer experience of working in a library setting in lieu of the MLIS degree. This requirement may be compromised, if the applicants are very strong in information technologies, including Web designing, networking, integrated library systems, and others. But all entry-level professional positions in North America require a Master's degree in LIS from an ALA-accredited library school or equivalent. This can be verified by checking the advertisements for all types of library positions given in the *ALA job list.*

3. Non-MLIS managers

Gordon (2005) considers non-librarian managers those who enter a library management position from another field with no previous education and training in library science. For decades we have witnessed non-librarians becoming managers, directors and deans of libraries. They include academicians (James H. Billington), historians (Daniel J. Boorstein) or scholars from other subject fields, such as Dean John M. Unsworth from the humanities, and Barbara K. Mistick of the Carnegie Library of Pittsburgh from entrepreneurship and public policy. These types of appointments are still continuing, especially in research libraries with strong special and archival collections. Librarians have always been critical of the hiring of non-librarians as managers. They do not like hiring non-MLIS people for any position higher than a paraprofessional. One of the bloggers of the University of Toronto (UT) Academic Librarians Committee is critical of the move of the administration toward structuring libraries on the corporate model, hiring MBA holders and non-librarians to what has traditionally been done by academic librarians (Are 2011). O'Connor (2006) presents another case of the appointment of a non-librarian as the new State Librarian and Chief Executive Officer of the State Library of New South Wales. He complains that knowledge of the profession and its culture, traditions, tasks and ambitions have not been considered important in this case. *Library Journal's* columns like Digital Libraries and Movers & Shakers include lively discussions on the issue of redefining librarian, cataloger, reference librarian and other traditional titles and positions. In principle, no one should be blamed more than our library schools, that are not offering enough courses in the management of special collections, area studies, rare books and archival collections. This is one of the major factors responsible for the shortage of qualified people for certain specialized positions in research libraries. Berry III (2003) reports the initiative taken by the Council on Library and Information Resources (CLIR) to get PhD graduates who are surplus in the humanities area into libraries to work for a year and then go to library schools to get a library degree. This program, if implemented in its true spirit, will help libraries to get additional benefits from the dual-degreed library staff.

Challenges for non-librarians as managers

No matter how intelligent and genius non-librarians may be in their own fields, when they are appointed as Dean of Library Affairs they get an entirely different environment to deal with because of the lack of knowledge and experience of LIS. The minimum requirements for the library dean's position are completely different from those of the non-MLIS dean's previous jobs. The 'required qualifications' part of an advertisement for the post of the Dean of Library Affairs in an American university library is given below for the information of those who appoint non-librarian deans at state university libraries in Saudi Arabia:

> "The ideal candidate will have, as a minimum, a graduate degree in librarianship from an American Library Association (ALA) accredited program. A PhD or other doctoral level degree is preferred. Academic and professional credentials should include an outstanding record of achievement sufficient for appointment as

> a full professor with tenure within the candidate's discipline. Minimum work qualifications for the position require a significant amount of administrative leadership experience. It is preferred that candidates have a minimum of 7-10 years of broad-based library experience with at least 5-7 years in a supervisory or management role within an academic library. Experience in academic administration, budget management, personnel management, and strategic planning is expected. Applicants must demonstrate the potential to engage in effective fundraising."

The position requires two minimum qualifications for the dean: (1) at least a Master's degree in LIS, and (2) 5-7 years experience in managing an academic library. It is obvious that non-librarians do not meet the two basic requirements and therefore, do not qualify for the job at all. If the appointment of non-librarians cannot be avoided due to some compulsions, the appointees must be aware of the challenges as they take over the responsibility as director or dean (in the case of state university libraries in Saudi Arabia). They need to know about the new environment, understand the mission and goals of the library, read through the pages of the library policy manual to understand the various policies, organization chart, job descriptions of staff, develop a deep understanding of the basic functions, such as cataloging and the difference between copy and original cataloging, circulation policies, serials control, online ordering, weeding, and others. They should have knowledge about each member of their staff and what exactly they do, how much and how efficiently they do their work, visit each department and get a briefing about the departmental functions from the manager, and others.

Literature search

An advanced search of LISA and Google Scholar retrieved only a couple of full-length articles and a few citations to blog posts, flyers, web documents, columns of *Library Journal*, and two books, dealing with the issues related to hiring of non-librarians as support staff and managers. None of these sources has any reference to the issues related to the appointment of non-librarians as Deans of Library Affairs in state university libraries of Saudi Arabia. Websites of several university libraries were also checked in order to get the names of present and former deans, subject areas in which they got their PhD degrees, and the years they served the library. In addition, notes were taken during the author's visits to major university libraries of Saudi Arabia at different times. Of these, four were managed by non-librarian deans. The small amount of literature on the topic of non-librarians as managers suggests that it is not a common practice in the western world to appoint a non-librarian as the library director or dean, except in libraries with specialized or subject collections, for which more importance is given to scholars and subject specialists to manage them.

Non-librarians as managers in Saudi Arabia

The government of Saudi Arabia has appropriated 24 percent of the annual budget to education, including higher education (Al-Angari, 2012). Since 1957, more than 45 public and private universities (List, 2012) have been created, of which 24 are run by the Ministry of Higher Education. The Minister of Higher Education is the Chairman of the Council of Higher Education that governs all the universities of the Kingdom. For each university, a university board chaired by the Minister of Higher Education and the Rector of the University as his deputy, together with other high officials, review all academic, financial and administrative matters and approve appointments of chairmen of academic departments, deans of colleges and some other departments, including the Dean of Library Affairs. For the position of Dean of Library Affairs, preference is given to librarians with a PhD degree. However, if they find none of them is suitable or lacks motivation, they select a non-librarian from faculty.

Prior to the 1990s, the terms of office of the Rector, Vice Rectors, Deans and Chairmen were not uniform across the Kingdom's universities. Some universities had adopted a fixed term policy and others had placed no restrictions on the time period for any positions. A good example of a university with the flexible term policy was King Fahd University of Petroleum & Minerals (KFUPM), where some senior administrators were holding their positions for more than 20 years. As a result, the waiting list for promotions was getting bigger and bigger. Finally, a royal decree was issued on August 22, 1993 limiting the term of the *Shura* (Consultative) Council to 4 years. The decree provided impetus to the Ministry of Higher Education to also apply the fixed term policy in the institutions of higher education in Saudi Arabia. The term periods vary from 2 years to 4 years depending on the position levels. For the Rector, it is 4 years, for Vice Rectors, 3 years, and 3 years for deans and chairmen with the possibility of one extension of the same period. All incumbent top administrators, including Deans of Library Affairs, who had been holding their positions for more than 4 years were relieved immediately. Implementing the new law (The law, 1993) created

the following scenarios for university libraries in the Kingdom:

1. At least four state universities-King Abdulaziz University (KAU), King Saud University (KSU), Umm Al-Qura University (UQU), and Imam Muhammad Ibn Saud University (IMU) have library schools offering BLS to PhD degrees in LIS. They have mostly Saudi faculty members (only Saudis can hold positions like chairmen and deans), who secured their Master's and PhD degrees from accredited library schools in North America, Europe, or Australia. If anyone of these four universities does not have a backup for the Dean in the library, such as a sitting Deputy Dean, Vice Dean or Assistant Dean, or any qualified applicant from outside, the administration may appoint one of the LIS faculty as Dean of Library Affairs.
2. The universities, such as KFUPM and King Faisal University (KFU) and others that do not have library schools or incumbent Deputy, Assistant or Vice Deans (KFUPM has recently created the Assistant Dean position) with a PhD degree in LIS have no choice but to appoint a non-librarian from another subject area as Dean of Library Affairs. Since 1993, four different non-librarian deans, with PhD degrees in Accounting, MIS and Computer Science, have supervised the KFUPM Library.

Following the introduction of a fixed term policy for Dean of Library Affairs, more than 50 percent of libraries are now managed by non-librarians, because the number of PhDs in LIS coming back to Saudi Arabia after completing the degree is very small. More than half of them join library schools and only one or two come to university libraries after a gap of several years. There are several universities with a concentration on Islamic and Arabic studies. These libraries are managed by Islamic scholars and Arabic linguists. They are still following the traditional practices of bibliographic control, with annotations written by subject specialists, as their collections include rare materials and a lot of manuscripts. So, the libraries of Umm al-Qura University in Makkah, Jamia Islamia in Medina, and Imam Muhammad Ibn Saudi University in Riyadh, are better off with subject specialists and scholars as their deans.

Unfortunately, there is not enough realization among the library community in Saudi Arabia and elsewhere in the Arabian Gulf Region that non-librarians cannot be expected to administer modern university libraries the way they are run by professional deans.

To manage a modern university library, one must have knowledge of the foundations of library and information science, which Ranganathan presented in his famous five laws of library science. These laws are still valid when traditional libraries are being transformed into digital or virtual libraries. The question here to ask is whether the appointment of a non-librarian is a better solution than sending selected young and motivated librarians from all over the Kingdom on government scholarships to library schools in North America or Europe to get a PhD degree. It may take a minimum of 5 years to get the degree, but a team of qualified librarians ready to take over from incumbent non-librarian deans will be a reality and if this practice is followed regularly, there will be enough qualified librarians to fill any position of library dean that becomes vacant in the future. The paper will attempt to answer this question.

The middle managers who work directly under the Dean of Library Affairs, and if they have worked long enough to have experience of working with both librarian and non-librarian deans (this author is one of them), know exactly how non-librarians manage library affairs differently from librarian deans. For example, a librarian dean would always emphasize using standards, rules, current practices and possible implications before preparing a policy. On the other hand, non-librarians are not as familiar with them as the librarian deans. The following are three typical management styles, which non-librarian deans normally follow.

1. **Unilateral style**. Some non-librarian managers come with the mindset that they have to make some changes. They would not like to discuss them with anybody, or if discussed they would not change their opinion. Those issues may include a variety of things, including relocating his own office, moving periodicals to another location, changing policies, especially circulation policies, migration to another integrated library system (ILS), and others. When it comes to implementing these decisions, they realize that some of them are not doable. In one example, to change an ILS requires hundreds of thousands of dollars, which the administration would not approve as the current system is still one of the leading systems according to the library automation systems marketplace report. Another example was a decision to stop weeding. After a few

months, there was no space left and the earlier decision to stop weeding had to be taken back. They do not understand that policies are not person-specific and should not be changed with the change in the administration unless there are strong reasons for the change.

2. **Democratic style**. Many non-MLIS deans like to consult on policy matters with their staff at different levels. The first level of consultation is the middle manager level, the second is the special groups and committees level, and the third is that of general staff. While this is the complete opposite of the unilateral style, it has some advantages and disadvantages. The advantages of consultation are that the staff do not feel alienated. Instead, they own the consensus decisions and make sure that they are fully followed or implemented. The disadvantages of consultation are the problems which emanate from the composition of the consultative group that may include qualified middle managers and those paraprofessionals who are elevated as acting managers. However, because of the differences in the levels of qualifications, experience, perceptions, skills, and competencies, difficult situations may arise, especially in dealing with highly technical issues, for example system migration, title level access to e-journals through library portals, and others. Non-librarian deans who themselves cannot take a decision or form an opinion on a technical issue find it easier to call for a vote to decide whose point of view to accept-that of an expert who understands the subject better, or those of paraprofessionals who have little or no knowledge of it. The deans would go along with the opinions of the majority, which always comprises paraprofessionals, and would not bother if the decisions taken are against the norm or not. This style of management cannot work if the levels of skills and expertise of the members of the consultative group are not equal, especially when the dean who heads the group himself is not a librarian.
3. **Peripheral style**: Some deans keep their leadership role peripheral and leave the middle managers to manage their own business. The reason for adopting this style of management is that they understand their lack of knowledge of the field and believe that the middle managers know their jobs better and therefore, they can be left alone to do their work without any interference from the dean. This is an extreme and evasive style of management, where everything is left on the shoulders of middle managers. They need directions which should come from the dean. He (all deans of library affairs are male) is the one who should set targets for the managers and their job will be to achieve them within a given time period. The followers of this style of management do not like communication meetings between the dean and his managers on a regular basis.

The management styles of all non-librarian Deans of Library Affairs of Saudi universities may belong to one of the three categories discussed above, but a majority of them follow the style that seems be between unilateral or authoritative and consultative styles, But there are cases where the deans have used the peripheral style also. In addition to their style of management, there are a few other factors which play an important role in shaping the way they manage the affairs of university libraries in Saudi Arabia.

Perception

The major problem of non-LIS deans of Saudi university libraries is that they come with a very simplistic view of the library and believe that one does not need a library science degree to run it. They also believe that whoever works in the library is a librarian. Gordon foresees problems for non-MLIS managers ‘‘[those] who are new to the library environment will face particular challenges. Although their existing managerial skills are transferable, it still takes time to understand and fit into the library world’’ (Gordon, 2005). When they rush into making decisions without understanding the basic library environment from library hours to library mission, goals and directions for the future, any move they make or any action they take may not bring the desired result. Each new dean wants to do something different from his predecessor. He may begin with physical changes, such as moving collections, changing furniture, relocating his office, and others. Whereas, having entered into a new territory, he should first try to learn about the subject area to which his new job is directly related by taking a few basic library courses offered by the Institute of Public Administration (IPA), or attending short courses and workshops held all over the Arabian Gulf Region throughout the year. At the same time, he may read introductory books especially prepared for non-librarians, such as the *Accidental librarian* (McKellar, 2008) and the *Accidental library manager* (Gordon, 2005). To know more about his own library, he should consult the library policy manual, which includes the

library's mission, goals and vision, the organization chart and general policies. Within the first few days, he should meet with the library staff, visit each department and get briefings from the managers about the types of work they perform, try to find out any problems or difficulties they are facing and give assurance for resolving them.

Lack of understanding of library operations and services

Non-librarian deans are not familiar with technical processes of the library, such as cataloging, classification, serials control, or authority control, and the qualifications and skills required for people who perform them. By the time they get some sense of these operations, their 2-year term expires. If the incumbent dean gets an extension, the next 2 years will enable him to see things more clearly and will make him understand his staff better. Until such time, the staff suffer from the lack of recognition and appreciation of their work. One library director (Drake 1990) considers ''teaching non-librarian supervisors to appreciate the library is a big part of the job.''

Lack of realization of difference in job levels and their requirements

One of the major problems of non-librarian managers is that they do not recognize the requirements and skills for various library jobs. For example, the requirements for middle managers, among other things, include a Master's degree in LIS from an accredited library school. If this requirement is ignored, then we see that a paraprofessional gets elevated to the library manager position on a vacant seat. The only difference is addition of the letter 'A' for 'Acting' to the job title, such as Manager of Acquisitions (A). While it solves one problem of filling the manager's vacant position, it creates several other problems. For example, the qualified managers may get upset by the elevation of a person to their level who does not meet the requirements for an entry-level position. A librarian dean would handle this situation differently and rationally. He would probably wait and ask one of the managers to supervise the department until a new manager is hired. Related to this issue is the problem of not differentiating between the value of degrees from accredited and non-accredited LIS schools in developing countries. There are at least two instances where an MLIS dean rejected two such PhD degrees, but his successor, who was not a librarian, accepted them. This shows very clearly how a qualified library dean and a non-degreed library dean approach things so differently. In this particular case, the position taken by the library dean was right and justified.

Lack of participation in professional activities

The KFUPM Library under its first Dean, S. Ashoor, was very active in initiating, organizing and participating in professional activities, such as organizing conferences, workshops, short courses, and seminars, publishing articles in professional journals, book writing, consulting, and others. He organized an international symposium on 'New Technology in Libraries: Prospects and Problems for Libraries in the Gulf States' in 1982 which was attended by Richard Boss, a renowned consultant on library automation, and Richard Cheffin from IFLA, as guest speakers. The KFUPM Library staff presented six papers which were included in the conference proceedings published by the Library. He started short courses in 1984, which are still continuing. According to a recent study conducted by the author on the contributions of Saudi authors (both local and expatriate) to foreign LIS journals, the first four most published authors belonged to the KFUPM Library. Together they published 97 (46 percent) out of 159 articles. Contributions of a single library to library and information services from local level to international level show the quality of leadership and the competency of middle managers, and their knowledge of the subject field. After the departure of Dean Ashoor, his team disintegrated and the University has not yet found replacements for them during the last 15 years. The non-librarian who succeeded Dean Ashoor had no idea about the kind of staff needed. Taking advantage of the situation, the Personnel Department took control of the selection and hiring processes. They reject excellent candidates selected by the Evaluation committee and sent names of their own candidates for approval. During the time of Dean Ashoor, the library staff were heavily involved in the Special Libraries Association-Arabian Gulf Chapter (SLA-AGC) Board, Papers Committee, Planning Committee and others. Four to five staff used to deliver papers at annual conferences ; now this number probably represents the number of presenters from the whole Kingdom.

Conclusions

The opinions of librarians are divided on the issue of hiring non-librarians for any positions higher than paraprofessional. Dean Giustini has been quoted as being critical of the *Library Journal's* decision to honor 'paraprofessionals' with Movers & Shakers

awards, asserting that ''they don't have the right to call themselves librarians'' On the other hand, Gordon (2008) takes a strong position in favor of non-degreed librarians, saying that the ''people who are doing the work of a professional librarian, who contribute to our profession, who keep up with the profession, and who are committed to the principles of the field, deserve the title of librarian-regardless of their degree status.''

In the context of university libraries in Saudi Arabia, the practice of appointing non-librarians as deans has not worked out well. On the contrary, it has contributed to lowering the level and quality of services. Too frequent change of leadership of the library is like reinventing the wheel. Because of no previous knowledge of LIS and having not enough time for proper orientation and consulting important tools, like the library policies and procedures manuals, the deans have superficial knowledge of library operations and services, which does not help them much in managing state university libraries in the way library deans have managed them. It is understandable that almost every faculty member wants to be the Dean of Library Affairs because of its high profile status and the benefits associated with the position. They are not bothered much whether they are able to fulfill the requirements for the dean's position or not and nobody can blame them. But it is the fault of those in administration who appoint them as Dean of Library Affairs. It is like appointing a political science graduate as petroleum engineer. Bringing a faculty member from another discipline to run the library just because there are not enough qualified librarians with PhD degrees is not the way to solve this problem. Instead, the Ministry of Higher Education should coordinate with library schools in the Kingdom to create a pool of LIS graduates with high GPA and select from this pool only those graduates who are motivated and are willing to go for a PhD degree on fellowships. But before going, they must work in one of the university libraries for a year with the condition that they will come back to the same university after getting the degree. Once they arrive, they can work with the incumbent non-librarian deans until their term is expired. During this time, the probable deans can familiarize themselves with the library environment, future plans, manpower requirements, policies and procedures. If this program is seriously implemented, within 5 years there will be no need to bring non-librarians to manage the state university libraries in Saudi Arabia. Once a professional librarian is in the Dean's chair, many problems will be solved and the libraries will start making progress again.

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Knowledge sharing behaviour influences: A study of Information Science and Library Management faculties in Bangladesh

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Abstract

The prime focus of this study is to measure knowledge sharing behaviour of Information Science and Library Management (ISLM) faculties in Bangladesh. Determining factors that may influence knowledge sharing behaviour constitutes an important area of research. A survey questionnaire was developed and used to collect data on faculties' demographic and academic information, perception, attitude, intention and intrinsic motivation to share knowledge. In order to analyze the influence of faculties' demographic and individual characteristics on their attitude, intention and intrinsic motivation, Mann-Whitney and Kruskal-Wallis tests were carried out. Results showed that no significant difference was found between knowledge sharing behaviour of LIS educators with different Major Research Questions (MRQs). The researchers found a significant relationship 0.000 (p-value<0.05) between attitude of educators toward knowledge sharing and their intention to share knowledge. It is believed that the findings will assist knowledge managers charged with the design of flexible knowledge sharing system. This is the first time an effort has been made to assess faculties' perception, attitude, intention and intrinsic motivation to share knowledge of ISLM faculties in Bangladesh. The authors feel that this study may encourage more such research on knowledge sharing behaviour in Bangladesh and further.

Keywords

knowledge sharing, library and information science educators, Bangladesh

Introduction

Nowadays, knowledge management (KM) has turned out to be an important apprehension. It has been widely recognized as a critical organizational resource irrespective of economic sector or type of organization. KM has been the primary focus of attention from organizations, which perceive it as strategic means for innovation and the maintenance of competitive advantage (Chua, 2009). The multidisciplinary nature of knowledge management has resulted from input from people in different fields including economists, human resource professionals, IT professionals and library and information professionals (Sarrafzadeh, Martin and Hazeri, 2006). A number of organizations have adapted and applied formal knowledge management over the past decade as practitioners and academics have identified effective knowledge management as a crucial factor for success in higher

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education (Aulawi et al., 2009; Kim and Ju, 2008). Within the overall knowledge management domain, a critical area that needs more attention is knowledge sharing. Organizations are becoming increasingly aware of the importance of knowledge sharing to survive and remain competitive (Yusof et al., 2012). Effective knowledge management strategies must emphasize the role of knowledge sharing to achieve maximum results for academic institutions. Knowledge sharing is considered as the most important process in knowledge management and it seems necessary for academic institutions to do more research on it. As faculty members play an important role in higher education (doing research, publishing, teaching, providing consultation and conducting other professional activities), identifying factors influencing their knowledge sharing behaviour was considered in this study. In this paper the knowledge sharing factors that are focused on include attitude, intention and intrinsic motivation. Also the role of types of institution, educators' length of teaching experiences and level of education are further analyzed. This study focuses on the knowledge sharing behaviour in term of sharing knowledge in the areas of:

a. Teaching (which includes teaching materials, teaching methodology, experiences and knowledge);
b. Doing research (which includes collaborative books, collaborative articles, collaborative research projects and making colleagues aware of research needs); and
c. Conducting professional activities (includes educators' membership in professional associations, their membership in journal editorial committees and their participation in reviewing journals articles).

Background of the study

As more information and knowledge is created and exchanged, knowledge is increasingly becoming ''the'' resource, rather than ''a'' resource for wealth generation (Cheng, Ho and Lau, 2009). In the ''resource based'' view, knowledge is considered to be the most strategically important resource. The effective management of this resource is consequently one of the most important challenges facing today's organizations (Van den Hooff and De Ridder, 2004). Therefore, organizations can start to effectively manage this resource when they understand the concept of knowledge. Hence, due to the lack of theories on this subject (Willem, 2003) and the intangible nature of knowledge (Jain et al., 2006), more research needs to be done on this important resource. The best sustainable source of competitive advantage and knowledge management in organization is knowledge – a key part of the strategy to create a sustainable competitive advantage. Knowledge sharing is one of the key processes in knowledge management as it transforms knowledge into a valuable organization asset. Knowledge sharing is believed to be one of the most important processes for knowledge management (Bock and Kim, 2002; Lathi and Beyerlein, 2000). Internationally numerous studies have addressed issues related to knowledge-sharing at various levels within organizations and between types of organizations. But in Bangladesh the concept 'Knowledge Management (KM)' is not very familiar (Siddike and Islam, 2011). Despite growing recognition of the importance of knowledge sharing, there is a lack of related empirical research in a developing country like Bangladesh. Knowledge management has a number of obstructions in its way. Institutional, infrastructural, organizational and psychological obstructions are posing grave challenges to the successful implementation of knowledge management systems in the libraries of Bangladesh (Hoq and Munshi, 2005). There are no studies on knowledge sharing behaviour in Bangladesh and the research gap comprised in the present study. The main emphasis of this particular study was on knowledge sharing behaviour influences among the Information Science and Library Management (ISLM) faculties in two public universities and some private universities in Bangladesh. At present, there are 54 private and 34 public universities in Bangladesh (University Grants Commission (UGC), 2012). Only two public universities, namely Dhaka and Rajshahi University, offer Information Science and Library Management education. Only three private universities, namely Darul Ihsan University, Royal University and Asian universities, are providing LIS education in Bangladesh. Besides these, there are another 30 institutions that are providing library science education in certificate, diploma and master's level (Rahman, Khatun and Mezbah-ul-Islam, 2008). Under this competitive environment, it is interesting to examine the behaviour and intensity of knowledge sharing practices among academics and factors that have motivated them to share knowledge with their colleagues. The findings would provide useful insights for policy makers and administrators at academic institutions to plan and implement effective research and knowledge sharing practices among academics. This paper is the first attempt to measure empirically the knowledge sharing behaviour influences among LIS faculties in Bangladesh. This study may trigger more such research on knowledge sharing behaviour in Bangladesh and beyond.

Review of relevant literature

Knowledge

Historically, the concept of knowledge has been defined in many ways. Recently, prominent authors have defined it as a meaningful resource that makes a new society unique. Drucker coined the term 'knowledge worker'. He argued that knowledge has been the basis of capitalist society, which is highly specialized (Drucker, 1993). Toffler (1990) saw knowledge as the essence of power in the information age. Knowledge is also defined as professional intellect that embraces know-how, know-what, know why, and self-motivated creativity in an organizational setting (Quinn, Anderson and Finkelstein, 1996). Nonaka and Takeuchi (1995) said that knowledge is about "beliefs," "commitment," and "action," which distinguishes it from information. Like information, knowledge is about meaning that is context-specific and relational. Nonaka and Takeuchi defined two types of knowledge: tacit and explicit. Tacit knowledge is not easily expressed or communicated via visual or verbal form. It is subjective, context specific, and difficult to capture. In contrast, explicit knowledge is objective, can be communicated via visual or verbal means, and is more easily codified.

Factors affecting knowledge sharing behaviour

Generally, sharing knowledge is about communicating knowledge within a group of people. The group may consist of members engaged in a formal institution, for instance, among colleagues in a workplace, or informal, for example, among friends, and the interaction may occur between a minimum of two individuals to a multiple of individuals. Knowledge-sharing between individuals is the process by which knowledge possessed by one individual is converted into a form that can be understood and used by others (Ipe, 2003).

The effectiveness of knowledge-sharing in organizations can be a significant factor to successful organizational management. Kang and Kim (1999) and Dixon (2000) viewed knowledge-sharing as the flow of knowledge from someone who has it to someone who wants it. Findings show that expected associations and contributions, rather than rewards, are major determinants of attitudes toward knowledge-sharing. The underlying purpose is to utilize available knowledge to improve the group's performance (Alavi and Leidner, 1999; Salisbury, 2003). Research concerning the factors affecting knowledge sharing has identified a number of different variables, from 'hard' issues such as technologies and tools (Van den Hooff and De Ridder, 2004; Kim and Lee, 2005; Chennamaneni, 2006) to 'soft' issues such as motivation (Ardichvili, Page and Wentling, 2003; Hinds and Pfeiffer, 2003; Cheng, Ho and Lau, 2009; Taylor and Murthy, 2009) and trust (Gao, 2004; Aulawi et al., 2009; Choi, Young and Lee, 2008).

Since knowledge is usually difficult to imitate, transfer and replicate, it is important to understand how knowledge sharing takes place. Because knowledge is usually difficult to imitate, individual knowledge sharing has strategic importance (Reychav and Weisberg, 2010). Reychav and Weisberg also revealed that the study 'Bridging intention and behaviour of knowledge sharing' establishes a validation of a model suggesting that an employee who is willing to share 'expensive' (tacit) knowledge is also likely to be willing to share 'cheap' (explicit) knowledge in order to be able to obtain potential benefits from the organization. Lin and Lee (2004) investigated the applicability of the Theory of Planned Behaviour (TPB) in explaining senior managers' intentions to encourage knowledge sharing. The analytical results demonstrated that the main determinants of actual company knowledge sharing behaviour were the encouraging intentions of senior managers. Additionally, senior managers' attitudes (correlation value = 0.43), subjective norms (0.45) and perceived behavioral control (0.22) were found to positively influence intentions to encourage knowledge sharing. Here subjective norm is often measured directly by asking respondents to indicate whether 'important others'(that is, self-selected referents) would approve or disapprove of their performing a particular behaviour and perceived behavioural control factors are individual dispositional factors and include the amount of information a person has, along with the skills, abilities, emotions, and compulsions of that person concerning a specific behaviour (Ajzen, 1991). On the other hand, Bock, Kim and Lee (2005) examined factors that are believed to influence individuals' knowledge-sharing intentions. They employed the Theory of Reasoned Action (TRA) and augmented it with extrinsic motivators, social-psychological forces and organizational climate factor that are believed to influence individuals' knowledge sharing intentions. The researchers also found that the attitude towards knowledge sharing (correlation value = 0.232) and subjective norms (0.266) influence individual's intention to engage in knowledge sharing behaviour, along with organizational climate (0.142).

Technology is an important mediating factor in knowledge sharing (Bhatt, 2001; Kim, Suh and Hwang, 2003). ICT functions as a platform for knowledge sharing, but is by itself insufficient to encourage

knowledge sharing as suggested by Hendricks (1999): ''The role of ICT for knowledge sharing can only be fully understood if it is related to the motivation for knowledge sharing . . . ''. Lin (2007) examined the role of both extrinsic (expected organizational rewards and reciprocal benefits) and intrinsic (knowledge self-efficacy and enjoyment in helping others) motivators in explaining employee knowledge sharing intentions. The results showed that motivational factors such as reciprocal benefits (correlation value = 0.35), knowledge self-efficacy (0.27), and enjoyment in helping others (0.21) were significantly associated with employee knowledge sharing attitudes. Also the result confirmed that reciprocal benefits (correlation value= 0.25), knowledge self-efficacy (0.42), and enjoyment in helping others (0.24) positively influence employee knowledge sharing intentions. However, expected organizational rewards, that can range from monetary incentives such as increased salary and bonuses to non-monetary awards such as promotion and job security, did not significantly influence employee attitudes and behaviour intentions regarding knowledge sharing.

Research on knowledge sharing in higher education institutions has been considered by some researchers. Lou, Yang and Shih (2007) studied the behaviour of instructors from information management departments with regard to knowledge sharing at technological universities. The influence of self-motivation and incentive mechanism on instructors' individual knowledge sharing and the obstacles encountered while knowledge sharing were investigated in this study. The results showed that information management instructors may encounter some barriers when sharing knowledge with others; they showed negative consensus on issues such as individual job security, academic promotion and intellectual property rights, making colleagues unwilling to share knowledge; the relationship among colleagues is very distant; and department heads do not take knowledge sharing seriously. Among the positive consensus items are: instructors agreed that the research workload is too heavy to share knowledge with others; and the university's information software that facilitates knowledge sharing is too old to use. A one-way ANOVA and independent t-test were used to explore the difference between instructors' backgrounds and the four aspects of knowledge sharing. The four aspects of knowledge sharing between instructors such as (a) the behaviour of instructors' knowledge sharing in teaching, research, educational and student counselling; (b) the motives of instructors' knowledge sharing; (c) the incentives of instructors' knowledge sharing; and (d) the situations of instructors' knowledge sharing were correlated with their demographic moderators, which include gender, seniority of teaching, marital status, educational background, type of institute, institute location, administrative duties and age. For example, the age factor of instructors generated significant difference regarding the behaviour, motives and incentives aspects of knowledge sharing; instructors aged from 30–39 significantly differed from those aged from 40–49, instructors with doctorates showed a more significant consensus on the aspects of behaviour, motives and incentives than those instructors who had master's degrees, and junior instructors tended to be more willing to share knowledge on the aspects of behaviour, motives and incentives of knowledge sharing than senior instructors. Instructors from different institutes obtained statistically significant consensus on the three aspects of knowledge sharing except for the incentive aspect. Also, the motives and behaviour of knowledge sharing are found to be significantly positively correlated, so that the higher the motives of knowledge sharing, the more that the behaviour of knowledge sharing occurs.

Kim and Ju (2008) identified and analyzed major factors (perception, trust, openness in communication, collaboration, reward systems and communication channel) for knowledge-sharing among faculty members in a higher educational institution in order to examine how those factors influence campus wide knowledge-sharing. The study also investigated the way in which those factors are interrelated. Results showed that perception is the most influential factor and reward systems are the second most influential factor for faculty knowledge-sharing. Respondents did not consider other factors such as trust, openness in communication, collaboration, and communication channels based on IT infrastructure to be main factors. These factors did not show statistically significant effect on faculty knowledge-sharing. Shin, Ramayah and Jahani (2008) tried to explain intention to share knowledge among academics by using the Theory of Reasoned Action. The study was done in a governmental institution of higher learning and the target respondents were academics from the lowest rank of instructors to the professors. The results showed that there was a strong positive relationship between attitude towards knowledge sharing and the intention to share knowledge. This result was consistent with the previous works of others (Kim and Lee, 1995; Bock, Kim and Lee, 2005) who found that an individual's intention to share knowledge is driven primarily by attitude towards knowledge sharing. Attitude towards knowledge sharing is found to be positively and significant correlated to the intention to share knowledge.

Research questions and hypotheses

In general, the respondents were asked, what are their perceptions of knowledge sharing behaviour in their institutions? Later, this study addresses the following Major Research Questions (MRQs):

1. **MRQ1**. Is there any significant difference between knowledge sharing behaviour of Information Science and Library Management faculties working in public universities with those working in private universities?
2. **MRQ2**. Is there any significant difference between knowledge sharing behaviour of Information Science and Library Management faculties with different teaching experience?
3. **MRQ3**. Is there any significant difference between knowledge sharing behaviour of Information Science and Library Management faculties with different education qualifications?

In this study three factors are considered as independent variables (attitude, intention and intrinsic motivation) and the researchers examine the effect of these variables on the dependent variable, that is the knowledge sharing behaviour of Information Science and Library Management faculties. The relationship between attitude and intention of faculties to share knowledge, the relationship between intention and knowledge sharing behaviour, and the relationship between intrinsic motivation and knowledge sharing behaviour of faculties are examined. The variables and hypotheses are discussed and developed in the following subsections.

Attitude towards Knowledge Sharing Behaviour

In the Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB), attitude factors have been tested and shown to be significant predictors of organizational behavioural intentions. For example, Chang (1998) argued that attitude towards moral behaviour significantly influences behavioural intentions. Moreover, Ryu, Ho and Han's (2003) study showed that physicians' attitudes towards knowledge sharing have affected knowledge sharing intentions. Bock, Kim and Lee (2005) have investigated the positive effect of attitudes toward knowledge sharing on individuals' intentions to share knowledge. Shin, Ramayah and Jahani (2008) showed that an absence of the attitude towards knowledge sharing can lead to selfishness, knowledge restraint and conflicts between universities. In this study, attitudes toward knowledge sharing refer to the positive or negative evaluations of LIS faculties regarding knowledge sharing behaviour. The researchers therefore formulate the following first hypothesis:

> **H1:** There is a significant relationship between attitude of Library and Information Science faculties toward knowledge sharing and their intention to share.

Intention to Share Knowledge

Although the results of most surveys which used TPB to form their researchers' model showed that people's intention to share knowledge is affected by their attitude and subjective norms (Bock, Kim and Lee, 2005; Shin, Ramayah and Jahani, 2008), the research by Kankanhalli, Tan and Wei (2006) showed that peoples' intention to share knowledge is prior to their attitude towards knowledge sharing. According to some researchers (Bock and Kim, 2002; Bock, Kim and Lee, 2005; Andriessen, 2006; Aulawi et al., 2009) when everything is ready for sharing knowledge in a situation, the willingness to share knowledge can support and reinforce peoples' attitude towards knowledge sharing. However, sometimes it may happen that people are willing to share knowledge due to the lack of facilities or the presence of conditions that prevent them from doing so. Here it is predicted that faculties' intention to share knowledge leads to increasing knowledge sharing behaviour. The second hypothesis is put forward as follows:

> **H2:** There is a significant relationship between Information Science and Library Management faculties' attitude and their intrinsic motivation to share knowledge

Intrinsic Motivation for Sharing Knowledge

From an intrinsic motivational perspective, behaviour is evoked by the need of employees to feel competent and self-determined in dealing with their environment (Deci and Ryan, 1987). Deci (1975) refers to intrinsic motivation as engaging in an activity for its own sake, out of interest, or for the pleasure and satisfaction derived from the experience. Research has recognized the crucial role of intrinsic motivators in explaining human behaviours in several domains (Vallerand, Deci and Ryan, 2000), including knowledge sharing (Osterloh and Frey, 2000). Some researchers consider reputation as a strong motivation to share knowledge (Wasko and Faraj, 2005; Taylor and Murthy, 2009) and some enjoyment in helping others (Lin, 2007). According to Szulanski (1996) intrinsic motivation of

the source is the most important factor in the process of knowledge transfer. Therefore, it has the aptitude to transmit the message and the desire to share it. This intrinsic motivation is especially important for the transfer of tacit knowledge. This study proposes enjoyment in helping others, obtaining achievement and success as well as reputation as three conditions, which form faculties' intrinsic motivation for knowledge sharing. The following third hypothesis is presented:

> **H3:** There is a significant relationship between Information Science and Library Management faculties' intention to share knowledge and their intrinsic motivation to share knowledge

Methodology

The study sampled Information Science and Library Management faculty members working in the universities approved by the University Grants Commission of Bangladesh. The total numbers of ISLM faculties (60) in the public and private universities were considered as the research population. A printed version of the questionnaire was distributed in the respective department of their universities. The data collection for this study began in January 2012 and continued through April 2012. Out of these 60 questionnaires, 49 were returned, giving a response rate of 81.66 %. Two responses that were either incomplete or contained skipped answers were dropped from the analysis. Consequently, the researchers analyzed 47 responses. The survey questionnaire consisted of the following elements:

1. Demographic and academic information such as gender, level of education, academic position, name and type of university and teaching experience of the faculty members; and
2. Faculty members' perception, attitude, intention, and intrinsic motivation to share knowledge.

For the category (2) above, faculty members were asked to evaluate each questionnaire item from 1 – "lowest" to 7 – "highest", corresponding to a 7-point Likert scale. In order to further analyze the influence of faculty members' demographic and individual characteristics on their perception, attitude, intention, and intrinsic motivation to share knowledge, Mann-Whitney and Kruskal-Wallis test were carried out (see, Howitt and Cramer, 2008 for details about these statistical procedures). Mann-Whitney (M-W) is a nonparametric test used on two groups of scores that are independent of each other. The null hypothesis tested by this method is that there is no difference between the two groups in terms of location, focusing on the median as a measure of central tendency. The M-W test was conducted to see the difference between public and private university faculty members in terms of their opinion on, attitude, intention, and intrinsic motivation to share knowledge. On the other hand, Kruskal-Wallis (K-W) is an extension on M-W test to three or more groups. The K-W tests were conducted to examine the difference in faculty members' opinion on attitude, intention, and intrinsic motivation to share knowledge in terms on their teaching experience and level of education.

Respondent's profile and background information

The demographic and background variables used in this study are name of university, category, gender, level of education, designation and experience. The faculties' demographic information is shown in Table 1. A total of 47 faculty members took part in this study. Based on the demographics and other personal background information obtained, a majority of the respondents were male (89.36%) and only 10.64% were female. This indicates an imbalance between male and female faculty members as respondents for this survey. Out of 47 faculty members, 38.30% had a PhD degree, 12.77% had an MPhil degree and 48.94% had an MA/MSS degree and the majority were tenured either as a Lecturer (19, 40.43 percent) or Assistant Professor (13, 27.66 percent). Most of the faculty members were teaching in public universities (53.19%) such as University of Dhaka (29.79%), University of Rajshahi (23.40%) and most of them had less than 5 years (13, 27.66%) and 5–10 years experience (17, 36.17%).

Data analysis and result

The first research question in this study relates to the perception on knowledge sharing behaviour of the faculties in their respective universities. Perception of the necessity and importance of sharing teaching and research materials is the most influential factor on sharing materials and knowledge among faculty members in this study. Participants recognized sharing materials as something crucial and beneficial to each other. The respondents were asked their perception of KS in their institutions and to evaluate the importance of sharing teaching materials among faculty members on campus, necessity, preparing class lectures, actively sharing research and teaching materials on a 7-point Likert scale (ranging from 1 = lowest to 7 = highest). This scale design is consistent with prior studies on knowledge sharing by Jain, Sandhu and Sidhu (2007),

Table 1. Faculties' demographic information.

Variable	Classification	Frequency	Percentage
Name of university	University of Dhaka	14	29.79
	University of Rajshahi	11	23.40
	Asian University of Bangladesh	8	17.02
	Darul Ihsan University	9	19.15
	Royal University of Bangladesh	5	10.64
Type of university	Public	25	53.19
	Private	22	46.81
Gender	Male	42	89.36
	Female	5	10.64
Level of education	PhD	18	38.30
	MPhil	6	12.77
	MA/MSS	23	48.94
Designation	Professor	10	21.28
	Associate Professor	5	10.64
	Assistant Professor	13	27.66
	Lecturer	19	40.43
Teaching experience	Less than 5 years	13	27.66
	5–10 years	17	36.17
	11–15 years	6	12.77
	16–20 years	6	12.77
	More than 20 years	5	10.64

Aulawi, H. et al. (2009) and Bock, Kim & Lee, 2005. It is the most widely used approach to scaling responses in every survey and here in this study it consisted of three independent variables. Table 2 shows the frequency of faculty response and mean (standard deviation) for each questionnaire item.

The results suggest that faculty member perceptions were generally positive regarding the importance of knowledge sharing for their research, academic and others purposes, as most ratings fell above 4, i.e. the average score. Faculty members as a group seem to be dedicated to educating students and heralding innovative and creative knowledge. Therefore, they are well aware of the importance of the concept of knowledge-sharing.

MRQ 1: KS behaviour of ISLM faculties among public and private universities

This study addresses the three Major Research Questions (MRQs). The first MRQ 1 relates to the influence of type of institution on knowledge sharing behaviour. In fact, the researchers wanted to know if there is a significant difference between knowledge sharing behaviour of faculty members working in public universities from those working in private universities. An independent sample Mann-Whitney (M-W) test was used to analyze the results. The results of M-W test in Table 3 show that there was no significant difference between public and private university faculties in terms of their attitude towards knowledge sharing, except in relation to "sharing knowledge has no effect on generating new ideas". The results of intention to share knowledge show that there was no significant difference between public and private university faculties, except in respect of "I am willing to share knowledge and experience which I acquired in teaching, research and professional activities". The results of intrinsic motivation to share knowledge show that there were significant differences between public and private university faculties in terms of "I am willing to share knowledge because I can obtain reputation" and "I am willing to share knowledge because I enjoy helping others". There are thus few significant differences between knowledge sharing behaviour of faculty members working in public universities with those working in private universities.

MRQ: 2 KS behaviour of ISLM faculties with different teaching experience

The second research question explored the influence of faculty members' teaching experience on knowledge sharing behaviour. An independent sample Kruskal-Wallis (K-W) test was used to analyze the results. The K-W test (see Table 4) shows that there was no significant difference in terms of teaching experience of university faculty members' attitude towards knowledge

Table 2. Faculty members' perception towards knowledge sharing. (N = 47).

Perception of knowledge sharing	Frequency (%)							Mean	SD
	1	2	3	4	5	6	7		
I am aware of the importance of sharing teaching materials among faculty members on campus	.	.	.	.	9 (19.15)	16 (34.04)	22 (46.81)	6.28	0.772
I feel that it is necessary to share teaching materials among faculty members	.	.	.	.	1 (2.13)	25 (53.19)	21 (44.68)	6.43	0.542
Seems that sharing of teaching materials will help me to prepare my classes and other works	.	.	.	1 (2.13)	12 (25.53)	17 (36.17)	17 (36.17)	6.06	0.845
I think faculty members at my university actively share their research materials	.	.	4 (8.51)	14 (29.79)	13 (27.66)	13 (27.66)	3 (6.38)	4.94	1.092
I think faculty members at my university actively share their teaching materials	.	.	4 (8.51)	14 (29.79)	15 (31.91)	9 (19.15)	5 (10.64)	4.94	1.131

Table 3. M-W test for public and private university faculty members' and knowledge sharing behaviour.

Attitude towards knowledge sharing	Mann Whitney *U*	Wilcoxon *W*	Z	Asymp. Sig. (2-tailed)
Sharing knowledge in teaching and research is followed with professional development and better performing.	270.500	523.500	-.103	0.918
Sharing knowledge and experience leads to learning new knowledge and knowledge production.	219.000	472.000	-1.292	0.196
Sharing teaching materials with colleagues saves time.	230.500	483.500	-.995	0.320
I know the importance of sharing knowledge in teaching and research.	208.000	461.000	-1.546	0.122
In my opinion sharing knowledge has no effect on generating new ideas.	170.000	423.000	-2.641	0.028*
Intention to share knowledge				
I am willing to share knowledge and experience which I acquired in teaching, research and professional activities.	118.000	371.000	-3.491	0.000*
I try to participate in discussion groups and workshops to share knowledge.	230.000	483.000	-1.017	0.309
When my colleagues face a problem, I try to help them as much as I can.	190.500	443.500	-1.941	0.052
When I take part in meetings and seminars, I don't consider it necessary to tell my colleagues about the results.	265.000	518.000	-.222	0.825
I am willing to share my notes, teaching files and research outcomes with colleagues.	216.000	469.000	-1.347	0.178
Intrinsic motivation to share knowledge				
I am willing to share knowledge because I can obtain reputation.	141.000	466.000	-2.992	0.003*
I am willing to share knowledge because I enjoy helping others.	170.500	423.500	-2.378	0.017*
I am willing to share knowledge as it makes my colleagues know more about my skills.	231.000	556.000	-.988	0.323
I am willing to share knowledge to solve my colleagues' problems.	256.000	509.000	-.455	0.649
I am willing to share knowledge because I believe its outcome is achievement and success.	156.500	409.500	-2.662	0.008

Note: *Significance at $p < 0.05$.

sharing except "Sharing teaching materials with colleagues saves time" ($X^2 = 11.872$, df = 4, $p = 0.018$).

There is thus little significant difference between knowledge sharing behaviour of Information Science and Library Management faculties with different teaching experience.

MRQ: 3 KS behaviour of ISLM faculties with different education qualifications

The third MRQ investigated the knowledge sharing behaviour of Information Science and Library Management faculties with different education qualifications. An independent sample Kruskal-Wallis (K-W)

Table 4. K-W test for teaching experience of university faculty members' and knowledge sharing behaviour.

Attitude towards knowledge sharing	Chi-Square	df	Asymp. Sig.
Sharing teaching materials with colleagues saves time.	11.872	4	0.018*

Note: *Significance at $p < 0.05$.

test was used to analyze the results. The K-W test in Table 5 shows that there was no significant difference in terms of attitude towards knowledge sharing of Information Science and Library Management faculties with different education qualifications except in respect of "Sharing knowledge and experience leads to learning new knowledge and knowledge production" ($X^2 = 6.238$, df $= 2$, $p = 0.044$). There was no significant difference in terms of intention and intrinsic motivation to share knowledge of Information Science and Library Management faculties with different education qualification except in respect of "When my colleagues face a problem, I try to help them as much as I can" ($X^2 = 11.136$, df $= 2$, $p = 0.004$) and "I am willing to share knowledge as it makes my colleagues know more about my skills" ($X^2 = 8.161$, df $= 2$, $p = 0.017$). There is thus little significant difference between knowledge sharing behaviour of Information Science and Library Management faculties with different education qualifications.

Hypotheses analysis

Item analysis with a median of 4 was used to explore the degree of consensus on the items of each variable (attitude, intention and intrinsic motivation). Table 6 shows the frequency of faculty response and mean (standard deviation) for each questionnaire item. The results suggest that faculty members' attitudes towards knowledge sharing were generally positive as most ratings fell above 4, i.e. the average score. On the other hand, all of the faculty members 47 (100 percent) showed their disagreement with the item statement that sharing knowledge has no effect on generating new ideas. It suggests that sharing knowledge of ISLM faculty members has a great effect on generating new ideas.

In terms of the intention to share knowledge (see Table 7), ISLM faculty members showed high consensus of agreement on the statement "I am willing to share knowledge and experience which I acquired in teaching, research and professional activities" (42, 89.36 percent) and "When my colleagues face a problem, I try to help them as much as I can" (46, 97.87 percent). Also 39 (82.98 percent) of them disagreed with the statement, "When I take part in meetings and seminars, I don't consider it necessary to tell my colleagues about the results". In general, the results showed that most faculty members in this study had the intention to share knowledge with their colleagues.

In Table 8 a high majority of ISLM faculty members agree on the intrinsic motivation for sharing knowledge, particularly the statements, "I am willing to share knowledge because I believe its outcome is achievement and success" (43, 91.49 percent) and "I am willing to share knowledge because I enjoy helping others" (46, 97.87 percent). Also 46 (97.87 percent) educators like to share knowledge for the sake of solving colleagues' problems. On the other hand, the two item statements that obtained comparatively the lowest agreement consensus were, "I am willing to share knowledge because I can obtain reputation" (29, 61.70 percent) and "I am willing to share knowledge as it makes my colleagues know more about my skills" (41, 87.23 percent). The results indicate that sharing knowledge to obtain reputation was the least important reason chosen.

Correlation Analysis

Pearson correlation coefficient was used to explore the correlation between (a) attitude and intention to share knowledge *(Hypothesis 1),* (b) attitude and intrinsic motivation to share knowledge *(Hypothesis 2),* and (c) correlation between intention and intrinsic motivation to share knowledge *(Hypothesis 3).* The results of hypotheses testing are reported in Table 9, which shows that two hypotheses were significantly supported (H1 and H3) and one (H2) was rejected. For hypothesis H1, p-value obtained 0.000>0.05, hypothesis H2, p-value obtained 0.202>0.05 and hypothesis H3, p-value obtained 0.054>0.05); therefore hypotheses H1 and H3 are accepted and H2 is rejected.

Conclusion

Research findings

Findings of the first research question result are very positive. Faculty members as a group seem to be dedicated to educating students and heralding innovative and creative knowledge. Therefore, they are well aware of the importance of the concept of knowledge-sharing. They also recognize knowledge sharing as an area of current research. Consequently, out of all factors that influence material sharing, perception is the most important factor. This should provide an impetus to develop and/or maintain campus-wide

Table 5. K-W test for level of education of university faculty members' knowledge sharing behaviour.

Attitude towards knowledge sharing	Chi-Square	df	Asymp. Sig.
Sharing knowledge and experience leads to learning new knowledge and knowledge production.	6.238	2	0.044*
Intention to sharing knowledge	Chi-Square	df	Asymp. Sig.
When my colleagues face a problem, I try to help them as much as I can.	11.136	2	0.004*
Intrinsic motivation to share knowledge	Chi-Square	df	Asymp. Sig.
I am willing to share knowledge as it makes my colleagues know more about my skills.	8.161	2	0.017*

Note: *Significance at $p < 0.05$.

Table 6. Item analysis of faculty members' attitude towards knowledge sharing. (N=47).

	Frequency (%)								
Attitude toward knowledge sharing	1	2	3	4	5	6	7	Mean	SD
Sharing knowledge in teaching and research is followed with professional development and better performing	.	.	.	.	11 (23.40)	16 (34.04)	20 (42.55)	6.19	0.80
Sharing knowledge and experience leads to learning new knowledge and knowledge production	.	.	.	1 (2.13)	8 (17.02)	16 (34.04)	22 (46.81)	6.26	0.82
Sharing teaching materials with colleagues saves time	.	.	.	15 (31.91)	10 (21.28)	17 (36.17)	5 (10.64)	5.26	1.03
I know the importance of sharing knowledge in teaching and research	.	.	.	3 (6.38)	7 (14.89)	23 (48.94)	14 (29.79)	6.02	0.85
In my opinion sharing knowledge has no effect on generating new ideas	30 (63.83)	13 (27.66)	4 (8.51)	.	.	.	.	6.55	0.65

knowledge repositories in the near future. Participants recognized sharing materials as something crucial and beneficial to each other. The analyses of mean scores further indicate that faculty members were generally less interested with sharing of research and teaching materials. The results indicate that perception towards knowledge sharing such as sharing of research and teaching materials should increase.

This study examining the effect of attitude on the intention of ISLM faculties to share knowledge obtains similar findings as those conducted by Lin and Lee (2004), Bock, Kim and Lee (2005) and Shin, Ramayah and Jahani (2008). The results show that there is a significant relationship between attitude of faculties and their intention to share knowledge. It means that faculty with the strongest intention to encourage knowledge sharing also have more positive attitudes towards knowledge sharing behaviour. The findings also indicate that faculties' intention to share knowledge is significantly associated with their knowledge sharing behaviour. The result accords with Lin and Lee's (2004) research. Using the applicability of Theory of Planned Behaviour, their findings showed that intention (correlation value = 0.49) influences knowledge sharing behaviour of senior managers.

It is believed that intrinsic motivation is significantly associated with knowledge sharing attitudes of faculty. The LIS academics share knowledge to mostly achieve success, promote their achievement, solve their colleagues' problems and help them, not for the sake of reputation. But here the findings for this present study are not significant (p-value=0.202).

Table 7. Item analysis of faculty members' intention to share knowledge (N = 47).

	Frequency (%)								
Intention to share knowledge	1	2	3	4	5	6	7	Mean	SD
I am willing to share knowledge and experience which I acquired in teaching, research and professional activities	.	.	.	5 (10.64)	15 (31.91)	13 (27.66)	14 (29.79)	5.77	1.01
I try to participate in discussion groups and workshops to share knowledge	.	.	.	6 (12.77)	19 (40.43)	16 (34.04)	6 (12.77)	5.47	0.88
When my colleagues face a problem, I try to help them as much as I can	.	.	.	1 (2.13)	10 (21.28)	14 (29.79)	22 (46.81)	6.21	0.86
When I take part in meetings and seminars, I don't consider it necessary to tell my colleagues about the results	9 (19.15)	12 (25.53)	18 (38.30)	8 (17.02)	.	.	.	5.38	1.19
I am willing to share my notes, teaching files and research outcomes with colleagues	.	.	.	2 (4.26)	15 (31.91)	21 (44.68)	9 (19.15)	5.79	0.81

Table 8. Item analysis of faculty members' intrinsic motivation for knowledge sharing.

	Frequency (%)								
Intrinsic motivation to share knowledge	1	2	3	4	5	6	7	Mean	SD
I am willing to share knowledge because I can obtain reputation	.	.	2 (4.26)	16 (12.77)	16 (12.77)	10 (21.28)	3 (6.38)	4.91	1.00
I am willing to share knowledge because I enjoy helping others	.	.	.	1 (2.13)	11 (23.40)	20 (42.55)	15 (31.91)	6.04	0.81
I am willing to share knowledge as it makes my colleagues know more about my skills	.	.	.	6 (12.77)	19 (40.43)	14 (29.79)	8 (17.02)	5.51	0.93
I am willing to share knowledge to solve my colleagues' problems	.	.	.	1 (2.13)	8 (17.02)	27 (57.45)	11 (23.40)	6.02	0.71
I am willing to share knowledge because I believe its outcome is achievement and success	.	.	.	4 (8.51)	12 (25.53)	12 (25.53)	19 (40.43)	5.98	1.01

Table 9. Results of Correlation Analysis.

Hypotheses	Significance	Correlation Value	Results of Hypotheses Test
H1: There is a significant relationship between Information Science and Library Management faculties' attitude toward knowledge sharing and their intention to share knowledge	0.000**	0.554	Accepted
H2: There is a significant relationship between Information Science and Library Management faculties' attitude and their intrinsic motivation to share knowledge	0.202	0.190	Rejected
H3: There is a significant relationship between Information Science and Library Management faculties' intention to share knowledge and their intrinsic motivation to share knowledge	0.054*	0.717	Accepted

Note: p-value <0.05, *Significance at $p < 0.10$, **Significance at $p < 0.05$.

This finding is consistent with Taylor and Murthy's (2009) research, who found that altruism is a significant predictor (p-value= 0.021) in sharing knowledge among accounting academics, but not reputation (p-value = 0.213). The present study also shows that there is a significance relationship between intention to share knowledge and their intrinsic motivation to share knowledge of their colleagues.

In identifying the influence of type of institution on faculty's knowledge sharing behaviour, the researchers found no significant relationship between knowledge sharing behaviour of faculties working in public universities and those in private universities. This is different from what Lou, Yang and Shih (2007) found in their research. Their findings revealed that instructors at public colleges and universities tended to be more willing to share knowledge compared to instructors at private colleges and universities. On the other hand, the results show that there is no significant relationship between faculties' teaching experience and their knowledge sharing behaviour. Moreover, faculties with different educational qualifications show no significant difference in knowledge sharing behaviour.

Research limitations

This study is limited to the influence of three individual factors (attitude, intention and intrinsic motivation) and three demographic variables (teaching experience, type of institution and educational qualifications) on knowledge sharing behaviour.

Future research

Further research may be conducted to determine the influence of other factors such as culture, trust, communication and collaboration on knowledge sharing behaviour of the faculty members. Since this research only included 47 faculties of ISLM, findings should be confirmed through a larger sample in order to increase generalizability. The data was collected only from ISLM faculties; therefore the study needs to be extended by collecting data from more disciplines. In some countries, this study may not be applicable due to different social context. The study found significant effects of intention and intrinsic motivation on knowledge sharing behaviour, but may be extended to examine what other factors motivate faculties and enforce their intrinsic motivation to share knowledge. On the whole, based on the findings of the research, what universities administrators and management should consider is to create a facilitative work environment for knowledge sharing so that knowledge sharing becomes second nature among academics. Universities also need to create environments of trust and openness. These are most often cited values that promote knowledge management behaviour (Goh, 2002). A high level of trust in an organization is an essential condition for a willingness to cooperate. It is believed that faculty members' intellectual activities and products themselves are strong assets in a competitive society. Sharing this knowledge is equally important. Developing, establishing, and maintaining successful and efficient campus-wide knowledge repositories will play a crucial role in enhancing knowledge-related performance.

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Establishment of the Election Commission Library in Nepal

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Abstract
The story of the development of democracy in Nepal, and the probability of the first election under a new constitution, has seen the inauguration of a unique library under the auspices of the Election Commission Nepal (ECN) in Kathmandu. With the assistance of the United Nations Development Programme (UNDP), Australian AID (AusAID), the Australian Electoral Commission (AEC) and USAID through the International Foundation for Electoral Systems (IFES), this library has developed from the foundation up. It has centralized old archives into a new building, developed policies hitherto unfamiliar, trained staff and is actively seeking to broaden its clientele to reaches beyond the city boundary. It is primarily a reference library, but in promoting the ideology of democratic processes in this previous monarchy, it seeks to broaden its influence to outer enclaves.

Keywords
special libraries, Election Commission Library Nepal, Nepal

Introduction

Setting up a library from scratch and establishing it as a vibrant entity is a challenge most librarians would relish. For Ramesh Prajuli and colleagues such an opportunity presented itself in the establishment of a specialized library in Kathmandu, Nepal. This library forms part of the recently inaugurated Electoral Education and Information Centre (EEIC) in Kathmandu. It has been established as part of the Electoral Commission of Nepal's Strategic Plan 2009–2013 where high importance has been placed on electoral information dissemination, voter education, outreach and research and development.

Establishing an electoral library and research centre as an integral part of the EEIC was indeed visionary in an underdeveloped country like Nepal. Phase One of the project has been funded by AusAID and is being implemented by UNDP Nepal's Electoral Support Project on behalf of the Election Commission of Nepal (ECN). The initial work covers conceptual design, construction, program area design, equipment and ongoing technical assistance that will be provided by UNDP-ESP (United Nations Development Programme - Electoral Support Project) and the Australian Electoral Commission. The International Foundation for Electoral Systems (IFES) has provided a USAID-funded specialist library consultant.

Additional EEIC Centres are planned at decentralized levels throughout Nepal over the course of the next 5 years to enable ECN staff and other stakeholders to have access to relevant information and resources.

The library's mission is to serve as a research collection on election-related matters, not only for Election Commission staff (including regional centres), but also for researchers, students and external stakeholders and the wider Nepalese community (UNDP Electoral Support Project, 2011).

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Figure 1. Election Commission of Nepal, Kathmandu.

Brief history of libraries in Nepal

This paper concentrates primarily on the establishment of the ECN library, but it is important to gain an understanding of the history and context of Nepalese libraries, their main contributors and mode of operation.

Library establishment in Nepal began with the formation of a United Nepal in 1769. ''It was King Prithivi Nararyan Shaha, the first King of United Nepal, who brought together all the scattered manuscripts, templates, leaflets and the like from different temples and monasteries throughout Nepal''(Adhikari, 2012). Pundit Kedar Nath, who was appointed as the person in charge of the Pustak Chitai Tahabil Library at Kathmandu, issued the first Library Act in a Gazette Paper on August 28, 1812 (Karki, 2002) and this is now marked as Library Day in Nepal.

The Nepalese government purchased the personal collection of Royal Priest Hemraj Pandey in 1956, merged it with the collection of the Central Secretariat Library and renamed it as Nepal National Library (NNL) on January 2, 1957 (Nepal National Library, 2007). The Nepal National Education Commission, appointed in 1954, recommended: ''A strong central library should be established as a centre for study and research". As a result, an agreement between the Government of Nepal and the US Agency for International Development (USAID) was signed on April 30, 1957 to establish a Central Library in Kathmandu. Consequently, a Central Library was established at Lal Durbar, Kathmandu.

In July 1959 the Tribhuvan University Act was passed and the University itself was established. This library originally suffered from an inadequate book collection and facilities. At that time, the library had only 1200 books, shelved in stacks made out of bricks and planks of wood, in a very limited space. With the absence of a trained librarian, the collection was not organized in a systematic manner (Tribhuvan University Central Library, 2006a). In 1962 the Central Library at Lal Durbar was handed over to Tribhuvan University Library in accordance with a decision of the government. After the merger, the Tribhuvan University Library collection reached 24,813 volumes of books. In 1977, it became the Tribhuvan University Central Library (Tribhuvan University Central Library, 2006b).

The Nepalese library profession had operated without any rule or act passed to assist governance. Realizing the difficulty of not having any policy and no means to resolve any legal issues that may arise for libraries in Nepal, Nepalese librarians strongly advocated the approval of the Library and Information Services Policy-2007 by the government on July 12, 2007.

In the light of this history, it is the hope of stakeholders, both in Nepal and abroad, that the establishment of the ECN Library will feature as another important step in the history of Nepal and become an integral link in knowledge management with other libraries in Nepal.

Recent developments towards democratic elections

Following a 10-year insurgency, which ended in 2006, when the seven political parties and the Communist Party of Nepal-Maoists reached the Comprehensive Peace Agreement, an Interim Constitution (replacing the 1990 Constitution) was formally approved by the Parliament in January 2007. Subsequently, an Interim Government was formed in March 2007. The ECN successfully conducted the Constituent Assembly (CA) Election in April 2008, which, as

Figure 2. Entering catalogue records into the new Library Management System for the first time.

a first step, proclaimed the country a federal republic, and thus ended the 240-year monarchy .

An elected Constituent Assembly was mandated to draft a new constitution and establish the framework for the first post-conflict general election. Following the inability of the Constituent Assembly to reach agreement on a draft constitution after a 4-year period, the Supreme Court refused to extend its term beyond May 27, 2012. The Constituent Assembly was dissolved and it was determined that another CA election would be held in November 2012. However, the alliance of major opposition parties refused to take part. Subsequently, all major parties agreed to form an interim government to carry on until the CA election in 2013.

The Electoral Education and Information Centre, Nepal (EEIC)

The EEIC is the first of its type in the region and is modelled on the successful National Electoral and Education Centre in Canberra. The Australian Electoral Commission has played a significant role and has assisted the Election Commission of Nepal with the establishment of the new Electoral Education and Information Centre through a 3-year partnership as a part of the AusAID Public Linkages Programme. To this end, the Australian Electoral Commission will continue to provide training over the next few years.

The Centre will provide electoral education to school groups, as well as enhance public knowledge of electoral education, electoral processes, political processes, constitution, democracy and political parties. The centre comprises a thematic learning area, a museum display area, a research centre (library) and a training facility. The Centre's strategic goal is to ''increase capacity, skills and knowledge, and to promote values that establish democracy and enable political participation''. Additional education and information centres will be established at decentralized levels throughout Nepal over the course of the next 5 years to enable ECN staff to further achieve their goals in outlying areas (United Nations Development Programme, 2012a).

The President of Nepal, Dr Ram Varan Yadav, officially inaugurated the Centre on 24 May 2012. This was a celebrated event in Nepal with many dignitaries in attendance. Dr. Yadav said: ''This Centre of excellence should serve to make the citizens fully aware about democracy, elections and good-governance.'' He further added, ''Not all the countries have this kind of facility, hence Nepal is privileged to have one for imparting electoral education to the public which is most essential for deepening of democracy''.

Tom Rogers, the Deputy Election Commissioner of Australia said, ''an educated electorate is critical to helping build a successful democracy.'' He acknowledged that the ties between the Election Commissions of Australia and Nepal have further strengthened with the establishment of this new Resource Centre and the signing of the Memorandum of Understanding.

UNDP Resident Representative Robert Piper stated, ''More than ever, Nepal's political leaders inside and outside Government have a critical responsibility to each become educators in their own right. This new Centre is at its core, an extraordinary new resource to support them in this critical responsibility'' (United Nations Development Programme 2012b).

The Australian Ambassador to Nepal, Susan Grace, has also provided significant support to this venture.

History of the Election Commission Library

The ECN is a permanent constitutional body mandated with the responsibility of holding free and fair elections in Nepal as well as organizing important functions between elections. Strictly speaking, the ECN library is purely a government library, as it has been established and is fully supported by the government to serve government departments.

The library was thought to be formed in 1967; however, no evidence has been found confirming the

exact date. Prior to its inauguration, the library was located in a turret of the ECN Building, a grand structure boasting a fascinating past. It was once a Rana Palace and then became Nepal's first hotel, known as the Royal Hotel. Currently the building is shared as an office by the ECN and the Vice President of Nepal.

The original library resource collection, housed in the old building, was largely inaccessible to researchers or interested readers. It had never been catalogued or sorted, and some of the books were out of date, irrelevant and often unrelated to electoral topics (UNDP Electoral Support Project, 2011). The collection was not limited to any particular language, and reflected a mix of Nepali, Hindi, English, and other local languages. Simply put, it was not a library, but was a book storehouse. Some books had been purchased, some were ECN's own publications and some of them were from other government departments.

Current status of the Election Commission Library

In a world where libraries are often undervalued or overlooked, it was farsighted to include a library in the model for the EEIC building, and to recognize that the dissemination of information is the central hub for any organization.

The library, which is situated on the first floor, boasts a spacious area which leads out on to two large balconies, one of which overlooks the turfed area in front of the ECN Building. The reading room accommodates areas set aside for research, private study and casual reading, with eight reading desks and bays. WiFi and intranet and Internet access are available on the eight computers providing access the library's online catalogue.

The library's objectives are to:

- provide required information to Election Management Bodies
- provide resources in all formats and media to be used by ECN staff at all levels for comparative analysis, policy and operational staff training, research and policy development
- provide access to a wide range of information resources for researchers
- enhance public knowledge in the area of electoral systems, elections, democracy and governance
- ensure the retention of past records and election ephemera, either in hard copy or digital format, and conservation of historical objects
- provide a platform from which learning/training packages can be accessed by staff in different regional locations
- be a centre for resources and expertise in civic education and the custodian of Nepal's electoral history. (United Nations Development Programme, 2012c)

After the inauguration of the new EEIC building, the library became fully operational from its new location. To reach that point, a significant journey had to be undertaken.

The journey

This is where the adventure began.

Before the inauguration of the new centre, work began with a dedicated team to prepare for its inception and future development. This included the appointment of local staff as well as two volunteers from the Nepal Library Association. The project was prudently managed by UNDP Staff and visiting consultants. The Australian Electoral Commission Librarian worked on site for a month to act in an advisory capacity and assist in the preparation of the new library. With no formally trained library staff, the USAID-funded appointment of a library development consultant reflects the commitment the ECN have for the project. The role has been to manage and support the planning and development of the new library and be initially responsible for the implementation of the EEIC's library services. Specifically, the consultant was initially charged to design a 6-month library strategic plan to encompass human resource management, collection development and management, library outreach and promotion, budget management and training and online services.

Before moving to the new premises, the formation of a Collection Development Policy and Mission Statement for this special library with unique subject coverage was an essential initial step. The newly formulated Collection Development Policy not only helped sort out the random collection but also provided a clear framework for consistent development of the collection in the future and the acquisition of resources (both print and electronic), and a rationale for library staff when decision making may be questioned. Relevant resources which fitted in with the concept created for the new library were carefully selected from the existing collection and moved to the new library. This was a fascinating part of the process with many significant and interesting publications being unearthed, including significant ECN historical publications, a Decision Register, and other valuable books. (Note: A Decision Register is a register of all minutes taken by previous ECN commissioners and secretariats, and thus provides an authoritative, knowledge record for decision making).

In preparation, library staff were trained in basic cataloguing techniques. Using a predesigned template, staff recorded catalogue data by hand, in readiness for checking before being copied into the library management system once it became operational. Training also included basic book preparation. In order to ensure consistency of the collection and to assist untrained staff, a detailed library procedures manual was also developed.

Another challenging aspect was determining the allocation of shelving space for the uncatalogued collection. This needed to be flexible, as it was necessary for all books to be sorted into broad categories, and arranged on the shelves in time for the inauguration, whether catalogued or not. This proved to be more difficult than was first perceived. In addition, new publications which had been purchased or donated were delivered to the library and prepared for addition to the collection. The mammoth task of packing up, cleaning (years of accumulated dust) and physically moving the selected printed books to the new library in a hot and muggy Kathmandu summer, then began.

The new library was still a building site, with stakeholders feverishly working around the clock, intent on completing their specific tasks on time. The building itself is an impressive structure with a marble entrance, stairs leading to the upper floors, disability access and air conditioning. All furniture and display areas were made on site, customized to suit the requirements. At the 11th hour, shelf signage was displayed, informative material framed and mounted on walls, and books arranged on shelves presenting a seemingly well-ordered and impressive research library. A relieved and proud moment for library staff!

Library management system

The library management system is based on the Koha Open-Source Integrated Library System (ILS) using Linux operating system. A local company, Diyaalo Technologies, was contracted to develop the software for the EEIC Centre, including the library, despite debate as to whether a commercial package should be purchased. Writing library management system software can be very difficult and challenging, and requires a working knowledge of how libraries function, the complex metadata and MARC record format to catalogue resources, as well as knowledge of the Z39.50 protocol. Both the library development consultant and the AEC librarian worked in close consultation with this local company, which despite no knowledge of library systems and functionality, worked tirelessly in a relatively short time frame to develop the product.

This was a testing and sometimes frustrating component of the project, which was exacerbated by the daily power shortages and *bandas*, or strikes, which were occurring in Nepal at that time.

There were occasions where the product's sophistication came into question. At this time, it was expected that further modifications would be necessary to customize the existing software to support the needs of the users and to provide additional functionality. Indeed, the software is now under the process of being updated with extra features being added. With USAID funding, IFES has contracted the Yomari Company, which is also Nepalese based, to make the library management system software more dynamic, and to offer additional functions and features to the basic modules as an integral part of the system. Hyperlinks will be added to the OPAC (Online Public Access Catalogue) front cover page to enable more comprehensive searching, plus links to electronic resources on the web and report generation. Future add-ons will include an Acquisitions Module, Serials Control Module and Reporting Module. At the time of inauguration, two library modules, OPAC and Cataloguing Administration, had been developed.

Once the library software was operational, the serious job of transferring and entering cataloguing data into the system began.

Ongoing projects

Ongoing projects include the establishment of an e-library, a web page, digitization of important documents, and reference statistics software implementation.

Digitization project

Members of staff are in the process of transforming old, ruined, and valuable archival printed documents, as well as historical images and primary source materials, into electronic format (PDF). Once the electronic version is developed, it will be uploaded into the library software and will be accessible through the library's OPAC. This initiative has been designed to ensure that staff, both local and in regional centres, can have ready access to information and that importantly, historical and noteworthy documents are preserved.

Reference statistics software

Implementing reference statistics software for the library's visitors log record and tracking the information sought is in the process of development. This is the very first time a system of this type has been

developed in Nepalese libraries. An IT expert from the Australian Youth Volunteer Ambassador programme commenced the development of the product. It will be uploaded onto the ECN website allowing visitors to book space and time and initiate other essential reference queries. This visitor's log record will generate a very comprehensive report. With the help of this software, the promotion of library services and keeping clients abreast of new developments, new arrivals, and a news clipping services will become available.

For online resources to be useful, reliable networks, universal access, and a sound IT infrastructure are also needed. Online resources demand electricity, PCs, Internet connectivity, and a high speed network. In Nepal, the load shedding (power cut off) of electricity creates problems; however, the backup generators installed by ECN are primed to step in if necessary.

Media service

Newspapers and other periodicals are available for patrons' use in the library. Library staff also maintain a press clipping service to alert Election Commission Staff and other interested parties regarding electoral topics. This is another resource which is new to ECN staff.

Accomplishments to date

Human resources management

The library development consultant was appointed as a manager to ensure competent management of the library from the outset. A permanent and qualified library officer with the Public Service Commission of Nepal has subsequently been appointed. Having one permanent government library officer is necessary for sustainable development and management of the library.

Training sessions in library management and services have been made available for library staff.

As part of the Public Linkages Program, Ishwori Panthee, the ECN Library Assistant, visited Australia to work closely with the Australian Electoral Commission Librarian and observe an electoral library in operation and receive further training in library procedures and management. He presented a paper on the establishment of the ECN Library to a local librarians' group, visited a range of libraries, liaised with local librarians and attended an Australian Library and Information Association (ALIA) eBook seminar, 'Turning the Pages' . On his return, he was able to transfer knowledge about what he had learned. Future exchanges of staff are planned in the future.

Collection development and management

Initially, the Collection Development Policy was formulated and based on the core collection (election, democracy, governance, and Nepalese history). Relevant documents were selected from the old ECN library with further subject-related resources collected by various means, such as purchases, gifts, and generous donation from different organizations. A strategic approach to the development of resources is ongoing.

Library outreach and promotion

To ensure proper use of resources, and for the library to be a viable entity, it has been essential to reach out to potential users and to promote the library's resources and services. Initially, there were barely two or three library users a month. But this scenario has changed with the establishment of the ECN library in the new building. However, only about 11 percent of visitors are female, and this requires further consideration. To this end, an annual outreach and advocacy plan has been prepared and includes participation in various library exhibitions and book fairs, orientation and interaction programmes conducted at a range of different venues and at different times. One particularly successful event, which attracted a large, interested and interactive audience, was a program conducted at Tribhuvan University Central Library and the Central Department of Sociology and Anthropology in December 2012. Fruitful discussion took place on the possibility of electoral research in Nepal in the future. At the same time, a library brochure and promotional video have been developed and disseminated.

Outreach to communities outside Kathmandu

The Election Commission Library seized the promotional opportunity organized by the Tribhuvan University Library Science Student Alumnae Association (TULSSAA) and the Central Department of Library and Information Science (CDLIS) at different places in western Nepal, including Chitwan, Dang, and Dadeldhura, in January 2013. The theme of the program was 'Broadening Library Services'. Ramesh Pajuli, the ECN library consultant, presented a paper on 'Challenges of government library services: Case of the Election Commission Library'. Most of the participants were local library professionals, community workers, civil society members, and students. Local library advocates had the opportunity to learn good

lessons to reinforce their library services at the local level. The central level libraries in Nepal could establish suitable networks with local libraries to promote library services to local clients. The ECN library, therefore, is planning to conduct more programs targeting potential patrons in the days to come.

Election Commission Library policy

The Election Commission library policy draft is now finalized and awaiting final approval. The policy includes provision for collection development, library committee, circulation, documents management, digitization, library marketing, and library budget management. This is a great achievement and an example of library development in Nepal, as no such official library policy existed before for any individual government library.

Although the total number of users is less than in other public and university libraries, it represents a major increase in comparison to old records of ECN library users. To maintain and increase this number, the library needs to provide some alluring research packages for electoral researchers and university students. along with continuing marketing activity, for example the provision of research grants on electoral research topics, awarding a prize for the best thesis/dissertation of the year, or the inclusion of political science resources from this library in academic courses.

It is imperative that the library develop as a critical service point to potential users and that staff continue to work vigorously to promote it. Resourcing the library adequately with print and non-print resources and relevant political science databases, reaching out to potential users, especially researchers on electoral issues, and strenuous promotion of the library and its facilities will be the key to future success.

The short term focus is to:

- expand the collection by purchasing resources and by seeking donations either physically or by funding from other institutions
- conduct further orientation programs for ECN staff and other potential users, irrespective of gender
- provide in-service training on research techniques and copyright regulations
- integrate the library with other libraries and organizations, e.g. university libraries, by providing resources that support academic courses
- continue with the digitization of various ECN publications and add to library software
- develop an Internet home page to make the library catalogue and information widely accessible to the public
- form a library committee
- develop a stable library budget
- research into the practicality of setting up a fully functional e-library needs to be undertaken
- a Book Collection Disposal Authority needs to be established in order to dispose of irrelevant and unwanted materials left in the old library
- integrate library services with EEIC program by providing a well-structured library
- orientation session for students visiting the Centre
- training of library staff in archival and preservation procedures
- to successfully implement the Right to Information Act which was passed by the Legislature Parliament of Nepal in July 2007, to ensure open and free access to information of public importance held in public bodies.

The ECN, being the constitutional body, is endeavouring to make its activities more transparent to the public to ensure an open government code of conduct and to this end, reports and documents are made available from the ECN library and EEIC. The information centre is disseminating information effectively because the library has as its core business the management of information.

Conclusion

With continuing support and guidance, and a committed staff who share the vision, this specialist library has the potential to take its place alongside other academic libraries in Nepal. One year on, the growing collection of books, journals, articles, newspapers, legal documents and other materials will hopefully take this library beyond its government platform and serve as a vital source of interest to anyone interested in the study of democracy and elections either locally or internationally.

This work has demonstrated the collegiality that exists so well between librarians, and the resolve for all stakeholders to make this library in the Himalayas a key player in a country passionate for democracy and electoral freedom.

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The information economy of Turkmenistan: A seven-year update

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Abstract
The issues related toward advancing the information economy in Turkmenistan are organized using the STEPE model (i.e., social, technical, economic, political, and ecological matters). An analysis, using these five factors, can give insight into the likely future of the information economy within this country. Many of the observations focus on contrasts rather than similarities since the Presidential library ban of June 2005 (see Richardson, John V. 'The library and information economy of Turkmenistan.' *IFLA Journal* 32(2) 2006: 131–139).

Keywords
libraries, information economy, PEST/STEPE analysis, Turkmenistan

Introduction

In the course of time, some things change, others don't, in the central Asian country of Turkmenistan. In 2004, Turkmenistan was awarded the dubious distinction of being named the worst country in the world in which to live and in 2012 was perceived as one of most corrupt countries in the world.[1] Yet the country's dictator for life, Saparmurat Niyazov, died unexpectedly in late December 2006, and by April 2008, modest changes had occurred – for instance, the eponymous names for weekdays and months reverted to the former system.[2]

Today, the capital, Ashgabat, is becoming a modern metropolis of mausoleum-like snow white marble and gold monuments. Turkmen children now go to school for an additional year, making it easier for students to study abroad because they have more education and are more highly competitive. The National Library of Turkmenistan has a brand new building and the Institute of Culture, where librarians are trained, has one as well. Equally importantly, more than 100 libraries previously closed are to be reopened, according to reports in *Central Asian News*.[3]

The purpose of this article is update the description of the information economy of Turkmenistan provided in the author's previous article, 'The library and information economy of Turkmenistan' (*IFLA Journal* 32(2) 2006: 131–139), based on three subsequent visits in 2009, 2011 and 2012 (as a Fulbright Scholar) and using the previously employed STEPE model (i.e. social, technical, economic, political, and ecological barriers or trends for advancement).[4] Each of the following sections provides a series of comparisons and contrasts with the previous review of the library and information economy in 2005.[5]

Social trends

Entrance to local universities can be facilitated through bribes to officials, ranging from a relatively modest US$7,000 for physical education to as much as US$100,000 for admission to the Turkmen International University. Realistically, though, only the sons and daughters of upper-level officials can access such sums of money. In several conversations, people expressed great interest in the establishment of an American-style university in Turkmenistan, and the Aga Khan Foundation is rumored to be interested in doing something along these lines in the region.

Turkmenification, a new national policy of hiring only indigenous Turkmen rather than Russian-speaking

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immigrants, continues apace.[6] Nonetheless, many Turkmen citizens appear to lack a sense of ownership in their country, especially since the government can, and regularly does, take back land which has been given to people.[7] This prevailing sense of arbitrariness makes nation building difficult. A related problem is that of 'information deprivation': there are no non-state newspapers or periodicals (foreign subscriptions are prohibited) or even current books, [8] nor is there easy access to the Internet.

Technical trends

To understand the library situation in this country, one has to consider the technological constraints. Home Internet service now appears to be much more widespread than previously. The cost is about US$1.00 per hour for a 28.8 kbs connection, but Turkmen Telecom is slow in connecting new services. Students also use local Internet cafés around the city. Various speed tests of the Internet by the author yielded 893–913 milliseconds to ping (downloads, 0.08–1.1 mbps versus 0.33–0.46 mbps uploads). Most popular Internet sites and services, such as Facebook, Google, or YouTube, are blocked on most computers, but many users know about the use of proxy servers or virtual private networks (VPN).

Among several new cellular phone companies, one Russian company appeared and then disappeared because it allowed unfiltered emailing. Obtaining a SIM card is a demanding task. Calling rates may have dropped, but a nominally priced US$30 SIM card may go for US$300 in the provinces due to their scarcity. The United States Information Resource Center (IRC) in Ashgabat has the first wireless Internet of any embassy in Ashgabat; one only needs a password to use it, and local students, plus many Americans, use this service. According to one of these students, there is nothing to read in Turkmenistan because of tight governmental controls on internal publishing; hence, Internet access to the outside world is really important. Ironically, SAT dishes spring up like mushrooms on top of older homes and cable television is available in the newer high rise towers. Still, despite having 80 channels, there isn't much of interest to watch and the radio has 4–5 channels, playing only traditional folk songs.

The new National Library, located in the National Cultural Center, has a dedicated Internet Room with 18 computers (plus two others located elsewhere) connected to a 128 kbs fibre optic network from the Health Research Center originating at the Scientific Library, which connects to the outside world on a 5mb download using the so-called Virtual Silk Highway connection. In the provinces, the American Corners in the city of Mary claims to offer 54 k on dialup. Unfortunately, however, IRC Internet service there is inconsistent. Internet security remains problematic.[9] On the other hand, for those with the resources, Apple's iPad is available in an authorized retailer at a cost of US$ 1035–1050 for the 64 GB version. So while e-books can be read, the content is still controlled, and purchasing books outside the country is a practical impossibility.

Figure 1. National Library of Turkmenistan at night (Courtesy of US Embassy).

Economic trends

With a GDP growth of 8–11 percent, Turkmenistan is one of the top three countries in the world in this respect, according to the World Bank.[10] Officially, the exchange of dollars to new Manats (TMT) and vice versa is set at US$ 1.00 = TMT 2.83. Salaries (including those of librarians) are now paid on time, which has important social consequences; and school teachers' wages rose by 40 percent after 31 March 2007. Automatic teller machines (ATMs) and credit cards are still almost non-existent. The federal government spends more in the capital city than in the provinces (although Mary did receive a new library building as promised; see discussion below) which, in turn, drives demand to live in the capital.

Political trends

In February 2007, Gurbanguly Berdimukhammedov,[11] the health minister from 1997 and former deputy prime minister from 2001, won a contested presidential election with 89 percent of the vote and a 95 percent turnout.[12] Among his many changes, the *Ruhnama* is now largely downplayed and people even publicly discuss its potential plagiarisms; however, the huge mechanical monument of it along one of the city's thoroughfares still plays a selected passage from it at 8 pm every evening.

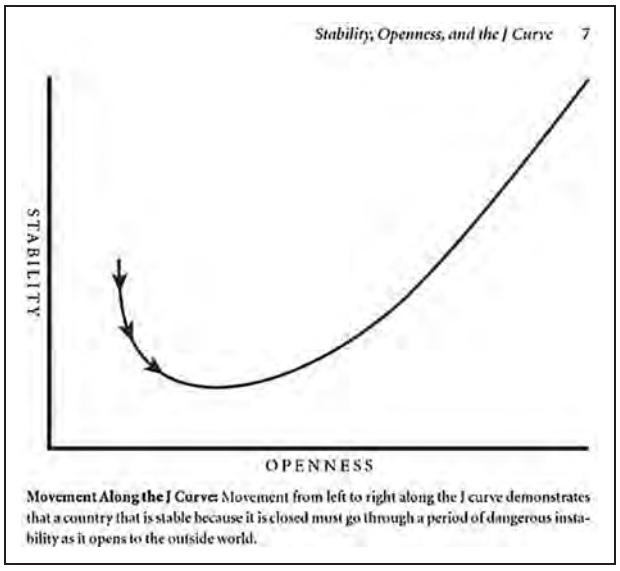

Figure 2. Bremmer's J-Curve (2006).

The new President has a strong interest in pharmacology and has published several books, including a fascinating four-volume set entitled *Medicinal Plants of Turkmenistan* (Germany, 2009–2012) printed in full color, as well as a beautiful volume about Turkmen carpets entitled *Living Legend*. The former presidential personality cult is much reduced and the huge, bizarre golden statute of former President Niyazov atop Neutrality Arch in downtown Ashgabat has been removed as of August 2010 and reassembled closer to the outskirts of town.

A test of first-hand knowledge of the *Ruhnama* is no longer required for various governmental positions and there are other political changes. The president has reopened the Postgraduate and Doctoralship Council and the Academy of Sciences has been re-established, but there is little funding for scientific research. The longstanding requirement of local registration still prevents citizens from living wherever they wish.

Turkmenistan may be making some progress toward openness in the political process, but if one subscribes to Ian Bremmer's idea about the J-curve,[13] then instability is more likely in this country's future (Figure 2). Nonetheless, in January 2012 the President registered for the next election and there were several other registered candidates.[14] However, opposition party websites and even some regional news sites were (and are) routinely blocked,[15] and Berdymukhamedov was re-elected in a landslide on 12 February 2012.

Ecological trends

The social ecology is still strongly influenced by the government's provision of free items (such as salt, gas, and water) as well as the presence (in Ashgabat) of numerous modern high-rise elite apartment buildings. The social ecology is also still largely determined by who you know and familial connections; word of mouth is still important in this oral culture.

The primary physical ecological issue for the provinces is desertification due to the cutting of saxual trees (*haloxylon ammodendron*), which only exist in Central Asia, and salinization[16] along the unlined irrigation canals, notably related to the projected 'Golden Age' Lake. This is a US$20b project to create a 770 square mile lake, known locally as Altyn Asyr, which would be formed from runoff water from cotton fields being irrigated by the Kara Kum canal.[17] Another striking ecological disaster is Derweze or Darvaza, aka the 'Gates of Hell,' an open pit still burning off gas from a failed 1971 Soviet drilling operation into a cavern in the Karakum desert. More recently, scientists have raised the possibility of an earthquake in Tajikistan, failure of the huge Usoi Dam, and then a subsequent tremendous seismic *seiche*; should such an event occur, "floodwaters would barrel westward down the Amu Darya River" into Turkmenistan.[18]

Specific institutions

This section provides updates on the National Library of Turkmenistan, the Central Scientific Library of the High Council for Science and Technology, and the Turkmen State Institute of Culture and adds information about the National Archives.

National Library of Turkmenistan (NLT)

Perhaps the single most striking difference between 2005 and now is the new National Library of Turkmenistan. The new library building, built on a plaza with three other structures, is even more architecturally impressive than the old building. Unfortunately, the new library is rather far from downtown, which may mean few users than before, unless the library's Internet technology is given increased support. The collections continue to grow; for instance, the Department for Foreign Language and Literature now has 54,000 books in 50 different languages and reports 55,000 volumes of periodical titles.

The former director of the National Library was removed for "shortcomings", according to Trend at http://en.trend.az/regions/casia/turkmenistan/2138693.html. The new director, Ms. Orazgozel Muhamedkulieva, studied in the Library Department of the Turkmen State University. From 1981 to September 1995, she worked at the NLT. When the Turkmen-Turkish University (TTU) was founded, in September 1996, she helped establish the university library while on

Figure 3. Another view of the National Library of Turkmenistan (Courtesy of the US Embassy).

Figure 4. The NLT's Internet Room with eighteen computers and Sony LCD projector (Courtesy of the author).

'secondment.' In 2008, the President asked her to become the new National Librarian.

In 2009 and 2012 the author spent time at the NLT training the 17 department heads on Internet searching and smartphone applications.[19] The NLT may acquire an automated circulation system in the near future, but the proper display of Cyrillic characters requires any computerized system to be Unicode compliant so that Russian text will appear correctly on the screen.

Central Scientific Library (CSL) of the High Council for Science and Technology

Serving as the only scientific library in Turkmenistan, the CSL was established in October 1941 before the war and survived the 1948 earthquake, only to be totally devastated by fire in 1959. The building was rebuilt from scratch during the 1960s. Today, the 1.2 million item collection is strong in foreign literature, with a huge amount of English, Persian, and Russian texts. Their stated professional goal is to collect all Turkmen language publications; in 2008, the library published a collection of Turkmen folktales (as the author had encouraged them to do in 2005).

Since 2009, the exchange of books with the Russian Federation has continued to decline and has stopped for all practical purposes (although the CSL is trying to rebuild that connection), and they are slowly developing web content.[20] The director, Almaz Yazberdi, is currently writing a history of Turkmen libraries.[21]

Turkmen State Institute of Culture

The rector of the Turkmen State Institute of Culture, Annamyrat Saparmuhammedow, formerly served as deputy mayor of a provincial town near the Afghani border. Like many others, he was asked by the President, as part of the Turkmenification agenda, to promote education and culture in his new role as rector. He is now more than 5 years into his new position and is proud of his students, who have recently competed successfully in various cultural competitions. The institutional mission or goal is to promote culture, the history of culture, and singing, especially in choirs. From this perspective, the point is to broaden the student's cultural understanding.

Even the school of librarianship, because it is viewed as a core interdisciplinary department, must participate in extra-curricular activities such as recitals of speeches and poems because its intellectual orientation is judged to be closest to the arts and culture (whereas in the United States it might be considered to be closer to the social sciences). The required entrance examination includes oral and written composition, an assessment of the student's attitudes and motivations, why the student wants a career in librarianship, and an investigation into what image of a librarian the student might wish to project, as well as how they feel about books and information technology, in particular. It is clear that admission to this professional program requires that the student must be ready to take part in more than just departmental activities.

The Dean of the Library Facultet, Bashimov Rozyjuma, is responsible for three departments: the *Kafedra* of Library Study and Bibliography, where one would learn to become a librarian/educator; the *Kafedra* of Information Technology and Book Studies, where one can become a specialist in web information and design, and the *Kafedra* of Museology and Archives, where one can become a specialist in either museology or in archives. The 2012 program intake was 35 students and the number is increasing every year. Twelve graduated in 2012 and 24 are expected to graduate in 2013. Students receive stipends of TMT 600 minimum per month; TMT 700 for excellent students, and

Figure 5. Architect's rendering of the proposed site for a new campus (Courtesy of Annamyrat Saparmuhammedow).

perhaps TMT 1,000 per month, if one is a President student-scholar. Students have access to a library of 43,000 items via a union catalog called 'mylibrary'.

For the new site of this university, a piece of land behind the present Olympic Stadium is being prepared as a gift from the President. From the architectural rendering, it will be a small city, including buildings devoted to concert halls, stage craft, and kindergartens as well elite apartments for 144 families. It is referred to as a 'Campus of Creativity' and will include a cinema faculty.

National Archives

While the national central archives are closed to the public, it is possible to discern something about their organizational structure; besides the central archives in Ashgabat, there are regional archives in the provinces and each government department has archives, including the separate Presidential Archives. Ms Maya Mollayeva was reappointed State Archives Director on 17 August 2012.

Publishing and private sector ventures

Since February 2011, a prospective author must have a registration number (which is valid for reprinting without additional recharge) for each manuscript in order to print it. The registration fee depends upon the amount of work required. The official publisher, the Turkmen State Publishing Service (TSPS)[22], is headed by Hudayberdiev Akmyrat, while Miras is the official bookstore. Paper comes from an indigenous paper plant (i.e. cotton pulp) as well as from other countries. Print runs (called *sany*) vary widely, from, for example, 60 copies for *Khorezm Culture* up to

Figure 6. New private venture bookstore (now closed). (Courtesy of the author).

11,000 copies for *Turkmen Halk Erteklieri* (fairy tales).

The TSPS has sponsored an annual international book exhibition since 2006. Held at the Sergi Kosgi National Exhibition Centre, Russian, Belorussian, Kazakhstani, and Azerbaijani publishers attended the 7th (2012) expo; this year's theme was 'Book – Way of Collaboration and Progress'. The program included talks from publishers and librarians on a variety of book-related topics. Last year, the theme of the TSPS booth proclaimed: 'Publishing system, the whole press must be the huge power in powerful, developed state." One of the highlights was a special exhibit of older books published in Ashgabat in the early 1930s.

An interesting development in 2009 was the appearance of a private sector bookstore, Bookwoed, in downtown Ashgabat. The name is a play on the word 'Bukvoed,' which literally means 'letter-eater', or a person who devours books. By late 2011, unfortunately, the store had closed, and the only outlets to purchase new books are the many kiosks or one of the few bookstores, which is centrally located behind the Teke Bazar, one of the large bazaars in Ashgabat Apparently, it isn't branded or named at all; this is how one finds it!

Figure 7. An example of a book published in Ashgabat in 1933. (Courtesy of the author).

Figure 8. Ministry of Culture's Former Regional Library for the Mary Welayat (now replaced). (Courtesy of the author).

Provincial libraries

In August 2009, the President held a special session of the Cabinet of Ministers in Mary, during which he paid special attention to the preservation of historical monuments[23] and proposed to build a large library equipped with the state of the art technologies in Mary city. Happily, this new US$36 million regional library opened in late 2010.[24] In future, such libraries will be built in all provinces of the country.

Persistent Issues

Implicit in the preceding sections are clear implications for the advancement of Turkmenistan's information economy.

Clearly, most of the libraries are monuments of civic pride, but they are empty granaries. No books, no Internet – no access, no knowledge. Enforcement of the depository library law at the moment is lax,[25] and the lack of enforcement has also been true in the past. The country's libraries are no longer overly dependent upon the Russian Federation (for example, the NLT received only 283 items from the Federation in May 2009); today, the US Embassy is the other major source for gifts of books. To alleviate the situation, Turkmen libraries might participate in the World Digital Library at http://www.wdl.org/en/ or other digital opportunities. Alternatively, readers who wish to donate books to the NLT can consult the Friends of the National Library of Turkmenistan page on Facebook for suggestions and ways to do so.

In summary, the future of Turkmenistan's information economy depends on those five factors previously discussed. First, the social economy suggests that the nation is well educated and highly literate, but it is still an oral culture where it is important that you know somebody who knows somebody. The technological infrastructure is strong and dominated by a cellular telephony culture. Likewise, the economic ecology is highly robust. The government can afford to build strikingly beautiful architectural monuments, but as mentioned above they are relatively "empty" warehouses without a current book stock. Politically, the government is repressive—one cannot freely live internally or travel abroad—with few freedoms that the western world might take for granted. Long-term as well as short terms study abroad would benefit Turkmen students and information professionals, who could see the current state of affairs worldwide. Electronic eavesdropping is widespread and current information, though otherwise available in periodicals, is suppressed. Ecologically speaking, Turkmenistan is challenged by their hot weather and thus preservation of their cultural record is at risk. In short, it is difficult to be highly optimistic about the future of this country's information economy.

Acknowledgments

Although the Department of State funded my trip in June 2009, neither the State Department nor any other US governmental agency, for that matter, necessarily endorses the preceding analysis and recommendations; furthermore, in September 2011, I was honored to be a guest of the Turkmenistan government to attend the Sixth International Book

Exposition-Fair sponsored by the Turkmen State Publication Service and to talk about "Will the Print-based Library Survive in the New Technology World: What about eBook Readers?"; likewise, they are not responsible for, nor likely to agree with many of, my personal opinions as expressed herein. Finally, I served as a Senior Fulbright Scholar in September-October 2012 and attended the 2012 book fair as a guest of the Turkmenistan government; again, neither the US government nor the Government of Turkmenistan is responsible for the views expressed herein.

In particular, I wish to recognize several individuals at the United States Embassy in Ashgabat, Turkmenistan including: the US Ambassador Robert E. Patterson; Ms. Kathy Ramsay, assistant to Ambassador Patterson; Brian Stimmler, the current Public Affairs Officer as well the two previous PAO's Mr. William B. Stevens and Mr. Andrew Paul as well as Ms. Rachel Sosin, Intern; Mr. Mike Hankey, Deputy Director, Central Asia at the US Department of State; Courtney E. Doggart, Cultural Affairs Officer; and Bradley T. McGuire, Information Officer; as well as the several Foreign Service Nationals in Ashgabat, especially Ms. Maysa Niyazova, Educational Program Assistant; Ms. Maia Meredova, Cultural Affairs Assistant; Ms. Eleonora Tatyanina, former Cultural Affairs Clerk; Gulbahar Abdurasulova, Alumni Coordinator; Mr. Azat Myradov, IRC Assistant, Public Affairs Service; Mr. Begench Boveliyev, IRC Clerk, US Embassy; Ms. Guncha Komekova, Alumni Coordinator, Public Affairs Service; Mr. Azat Myradov, IRC Assistant; Ms. Leyla Yagdyyev, former IRC Assistant and Ms. Jahan Akiniyazova, her replacement; and Mr. Meylis Hummedov, Media/Information Assistant, all of whom talked with me as a friend and made this article possible, but especially Ms. Maysa Nepesova, who worked with me on housing and shopping adventures. Mr. Earl Wall, Head, Peace Corps Turkmenistan was cordial as well. In addition, I benefited from numerous confidential conversations with more than two dozen individuals.

Notes and references

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6. I recommend several items to keep current or understand the historical context of Turkmenistan: a) 'Turkmenistan [News]' at http://www.eurasianet.org/resou rce/turkmenistan/index.shtml (accessed 25 March 2013) provides a good source for current information on the country, and especially on the July 2009 'policy' of requiring exiting students to have two stamps and additional documentation before studying abroad. For a historical analysis of the politics of language in Turkmenistan, see Jacob M. Landau and Barbara Kellner-Heinkele, *Politics of language in the ex-Soviet Muslim states: Azerbayjan, Uzbekistan, Kazakhstan, Kyrgyzstan, Turkmenistan, and Tajikistan* (Ann Arbor: University of Michigan Press, 2001) and Victoria Clement, 'Emblems of independence: script choice in post-Soviet Turkmenistan,' *International Journal of the Sociology of Language* 192 (2008): 171–185. Next, David Tyson, 'Shrine pilgrimage in Turkmenistan as a means to understand Islam among the Turkmen,' *Central Asia Monitor – On-Line Supplement,* no. 1 (1997) which is online at http://www.uga.edu/islam/turkmen.html (accessed 25 March 2013). By way of background, this article presents the author's research from 1993–1995 on *zïyarat*, or shrine pilgrimages to 'the burial sites of these Muslim founding fathers' such as sites at Paraw Bibi, Khoja Yusup Baba (Hemedanï), Baba Gambar, Hazret(i) Alï, and Khoja Älem Baba. Based on my extensive personal interviews, I would observe that many Turkmen are nominal Muslims because they do not know the Five Pillars of their faith and are much more apt to believe in the Evil Eye and wear an alaja (i.e., talisman) made of camel hair for protection. In 1914, Karl Baedeker wrote that "many of the inhabitants belong to the Persian sect of Babists, founded between 1830 and 1840 by Ali Mohammed of Shiraz" on page 511 of *Russia* (Leipzig: Karl Baedeker, Publisher, 1914). See also, 'Zoroastrianism i. historical review,' *Encyclopaedia Iranica* at http://www.iranicaonline.org/articles/zoroastrianism-i-historical-review (accessed 25 March 2013).And, finally, John W. Kropf, *Unknown sands: journeys around the world have most isolated country (*Houston: Dusty Spark Publishing, 2006, p. 46). This work is written by the deputy director and then director of the USAID about his experiences in Ashgabat as well as the five provinces during his 2000–2002 diplomatic stint; a 37-item bibliography, including some excellent historical sources, is appended.
7. For instance, on my 2011 trip, I went by the place where I lived in 2009; it was totally gone, replaced by this monumental Roman style architecture. When I mentioned my

former place to colleagues, I learned that many citizens experienced such arbitrariness about their residences and do not have the freedom to live where they wish without the government's widespread use of eminent domain.

8. One of my colleagues was able to buy books at the book fair, but was not able to leave the country with them due to customs/immigration restrictions—including some children's books as well as one title about the Kirghiz situation and terrorism in Central Asia (Liladhar Pendse to Richardson, 29 September 2011).
9. Internet security is highly problematic; according to Henry Chang of UCLA Bruin OnLine's help desk, the breach of my own internet connection to UCLA came from an IP address (61.129.64.88, supposed owned by the Data Communication Division of Shanghai Yuanhe Technology Development Co., Ltd.) which "was being used to connect to an online resource licensed to the UCLA Library (i.e., SciFinder Scholar/Cas.org)" according to Chang to Richardson, 2 July 2009. This security breach resulted in thousands of PDF article downloads.
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20. See, for example, http://library.science.gov.tm which was an excellent site for events, news articles and announcements in English, Russian, and Turkmen; however, it is not available on 5 March 2013 and the last Internet Archive WayBackMachine crawl dates from 2 December 2009.
21. He is the subject of a tribute in *Kniga/Book: Researches and Materials,* Collection No. 90/1-2 (2009): 205–214.
22. They publish an annual book catalog in the three official languages: Turkmen, Russian, and English; the 2012 edition runs to 47 pages; see their informative YouTube video at http://www.youtube.com/watch?v=sdLDbJ4t5GM (accessed 23 May 2013).
23. The US Embassy has assisted financially at such sites as: 1) the restoration of the Sultan Tekesh Mausoleum at Kone Urgench, 2) Restoration Work at the Shrine of Seyit Jamal ad-Din, 3) Restoration of the Ak Saray Ding Tower Near Dashoguz, and 4) Conservation and Restoration Techniques at the National Carpet Museum, Ashgabat; see, 'Turkmenistan,' In Protecting Historic Treasures: U.S. Support for Cultural Preservation in South and Central Asia, pp. 30–35 (New Delphi, India: US Department of State, Bureau of South and Central Asian Affairs, September 2007).
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Author biography

Dr. John V. Richardson Jr., is the first American to have a book, *The English-Russian Dictionary of Information Terminology* (2nd ed., in print), published by the Turkmen State Publishing Service. Furthermore, the government of Turkmenistan has asked him to assemble a team to prepare a third edition which will include the Turkmen language and he will be attending the 8th International Book Fare in late 2013. Contact: UCLA Professor Emeritus of Information Studies, Graduate School of Education and Information Studies, Department of Information Studies, 204 GSE&IS Bldg., CB 951520, University of California at Los Angeles, Los Angeles, CA 90095-1520. USA. Tel. +1 (310) 206-9369 (UCLA Office). +1 (310) 419-6561 (Facsimile). Email: jrichard@ucla.edu. Website: http://purl.org/net/jrichardson

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Enhancing awareness of science, technology, engineering and mathematics (STEM) in academic libraries: A Jamaican case study

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Abstract

This paper documents strategies that can be used to enhance Science, Technology, Engineering and Mathematics (STEM) awareness in academic libraries. A case study approach was used to provide insights from the author's fellowship experience and personal reflections from working as a science librarian in academic and special library settings. In this regard it revealed six strategies that academic librarians can implement to enhance STEM awareness. These strategies target users, non-users and staff. This paper is unique in that it is the first publication on the initiatives of a Jamaican academic library in promoting the STEM concept. This study is of value as it includes strategies that can be used to enhance STEM awareness; allows for benchmarking; and points to the need for further research in the area.

Keywords

science awareness, technology awareness, engineering awareness, mathematics awareness, STEM awareness, academic libraries, Jamaica

Introduction

Science, Technology, Engineering and Mathematics (STEM) as a driving force for national, social and economic development have been given a renewed focus in Jamaica. This is evident in the establishment of organizations such as the National Commission on Science and Technology (NCST), which is an advisory body to the government on policies and strategies relating to STEM; the strengthening of the Scientific and Technical Information Network (STIN) that increased access to STEM resources; the launch of the National Innovation Awards for Science and Technology in November 2005; and most recently the conference held at the University of the West Indies (UWI) Mona Campus, February 5th 2013, under the theme: 'Science, Technology, Engineering and Mathematics (STEM): For Innovation and Economic Prosperity'. Another demonstration of this focus was the re-branding of the UWI's Faculty of Pure and Applied Sciences at the Mona Campus as the Faculty of Science and Technology. Notwithstanding these positives, more emphasis on the acronym 'STEM' is needed. There is also the need to re-brand courses, activities and organizations to give accent to this concept. Given librarians' role as information gatekeepers, they must activate awareness of STEM resources; they must also re-evaluate and strengthen the library's place in STEM education. It is in this regard that a qualitative case study design was adopted to highlight strategies that can be used by libraries in general and academic libraries in particular to promote STEM awareness. Through reflexive analysis the study revealed strategies ranging from those you can do solo to those you can partner with others to implement; those for patrons and non-patrons and those for members of the library team. These have implications for practice and policy, namely: librarians will need to utilize the available opportunities and spaces to enhance awareness of STEM information; they will need to adopt a multi-pronged approach to

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STEM awareness which should include initiatives aimed at collaboration and partnership with those outside the library fraternity; and they will need to create an innovative and inclusive marketing policy to promote STEM resources within and without the library.

Background

Jamaica is the third largest island in the Caribbean. It has a population of a little over 2 million people. While English is the official language, variations of Jamaican (patois) are spoken. In 1962 Jamaica gained full independence from the British. In 1973 Jamaica became a member of the Caribbean Community and Common Market (CARICOM) to promote economic cooperation amongst members and the creation of a common market. Jamaica's formal education system has four major tiers: early childhood, primary, secondary and tertiary. The primary level comprises grades 1–6 and students usually begin between ages 5–6. At grade 6, students sit the Grade Six Achievement Test (GSAT), which determines the secondary school they will attend. The secondary level comprises grades 7–13. At the end of grade 11 students complete the Caribbean Examinations Council / Caribbean Secondary Education Certificate (CXC/CSEC) exams, which determine their continuation to grades 12–13, or their acceptance into a community college should they choose that option. At the end of grade 11 students may also opt to pursue technical/vocational training at a vocational institution. The major aim of vocational training is to provide secondary school leavers with usable and on-the-job skills. At the end of grade 13 or at the end of their two years at a community college, students will sit the Caribbean Advanced Proficiency Examination (CAPE). Students' performance in CAPE, as well as in the CXC/CSEC exams they would have taken at the end of grade 11, influences their acceptance into the university system. There are a number of universities and colleges in Jamaica offering degree programmes; however, the University of Technology (UTech) and UWI are the leading universities in Jamaica. They are also the chief educators in STEM fields at the university level.

The Need for STEM Awareness and Support

It is widely accepted that highly prosperous, industrialized nations of the world generally invest heavily in science and technology (National Commission on Science and Technology et al. 2004: 9). According to Ventura (2005: 4) the advent of the industrialized or developed countries was directly due to innovations made possible by science and technology. He adds "all the countries that have neglected this method, and have made few investments in research and development (R&D) are the ones that have not progressed sufficiently to be counted among the developed economies" (Ventura 2005: 4). Progress in science and technology is measured by input / output indicators for human resources, research and development, expenditure, patents and technological activity. Analyses of these indicators have raised concerns regarding the progress of STEM education. Although the National Science Foundation (2012) in the United States revealed that the Science and Engineering Indicators for 2012 showed that the number of undergraduate degrees awarded by US academic institutions has been increasing over the past two decades in both science and engineering (S&E) and non-science and engineering fields and that these trends are expected to continue at least through 2019, there are concerns regarding the number of graduates in STEM fields in the US. The concern is that not enough students are being prepared to function in these areas. Jeffery Kuenzi's work is instructive in this regard as it highlights six major reports released by highly respected US academic, scientific, and business organizations which signal the alarm on the need to improve science and mathematics education (Kuenzi 2008: 1)[1].

A number of works have also recorded the issue. Duff (2010: 10), for example, notes "humanities degrees are still dominating even though this is not currently where all the jobs are available". Consequently, she argues "educators must do a better job of preparing kids with the knowledge and skills to enter these fields before the jobs are sent overseas" (Duff 2010: 10). According to Ejiwale (2012: 89) "if the United States is to remain competitive in a global economy, the participation of American students in STEM fields must increase". He adds "the importance and the need for STEM programs in school curricula should be taken seriously" (Ejiwale 2012: 92). Similarly, Mardis (2009: 10) notes "in a time when we cannot educate enough scientists to meet our national needs, our children are not inspired to learn about science, and we lack the collections and collaborations to motivate more and better science learning, we need to look ahead in this vital area to see what the future can offer as a solution to these problems". The US S&E Indicators for 2012 support these statements. The indicators revealed more than half of first university degrees in Japan and China were in S&E fields, while in the US only about one-third were in S&E. Further, the number of S&E first university degrees awarded in China and Taiwan more than doubled between 2000 and 2008, compared with

those in the US and many other countries, which only "generally increased" (National Science Foundation 2012). The US S&E Indicators for 2012 also showed that Asian universities accounted for 2.4 million of the world's S&E first university degrees in 2008; European (including Eastern Europe and Russia) universities earned about 1.2 million S&E degrees while North and Central American universities earned only 700,000 in 2008 (National Science Foundation 2012).

In Jamaica, there is also cause for concern. UTech and UWI are the two leading institutions in Jamaica offering STEM programmes at the university level. For the academic years 2008/09, 2009/10 and 2010/11 STEM graduates accounted for 11.3 percent, 11.6 percent and 13.7 percent respectively of graduates from UWI and 50.2 percent, 32.7 percent and 46.1 percent respectively of graduates from UTech (University of the West Indies 2010; 2009; 2008; Economic and Social Survey Jamaica 2011: 22.29). Additionally, between 2009 and 2011 the number of non-STEM professionals was more than three times the number of STEM professionals (ESSJ 2011: 22.25). At the secondary level the performance range of students in Caribbean Secondary Education Certificate (CSEC) exams in Jamaica for the period 2007–2011 was as follows: for Mathematics, students scored between 30–40 percent; for Chemistry, students scored 60–80 percent; for Biology, students scored between 70–80 percent, for Physics, 70–80 percent and for Information Technology, 70–90 percent (Economic and Social Survey Jamaica 2011: 4.5). The figures indicate that compared with the other subject areas performance in mathematics is consistently the lowest; there is a need for improvement in this subject area. The figures indicate a fairly good performance in all other science subjects. However, a comparison with students' performance in non-STEM subjects at the CSEC level indicates the need for great improvement within STEM subject areas at the secondary level. During the 2010–2011 period students scored between 50–70 percent in the Sciences compared with the other subject areas (Arts, Technical/Vocational and Business), which showed students scoring between 62–80 percent (Economic and Social Survey Jamaica 2011: 4.6). A similar trend is observed at the primary level: during the period 2007–2011 GSAT results revealed students at the primary level scored between 45–65 percent in Math and Science compared with other subject areas where their performance exceeded 65 percent (Economic and Social Survey Jamaica 2011: 4.4).

Additionally, in 2011 Jamaicans had the largest share of STEM publications compared with other CARICOM countries. Jamaica accounted for 36.6 percent of research and development in STEM compared with Trinidad and Tobago's 32.4 percent and Barbados' 11.2 percent (Economic and Social Survey Jamaica 2011: 4.7). Notwithstanding this positive comparison in STEM using the indicator research development, Jamaica's performance on the ICT development index was weak. In 2008 Jamaica was placed 79 out of a total of 159 countries, while Barbados was placed 33, Antigua and Barbuda 38 and Trinidad and Tobago 56. In 2010 Jamaica was given a similar placement: Jamaica was placed 85 out of 152 countries compared with the placement of Antigua and Barbuda at 38, Barbados at 41 and Trinidad and Tobago at 61 (Economic and Social Survey Jamaica 2011: 4.11). In 2009, 2010 and 2011 Jamaica was placed 73 out of a total of 130 countries; 70 out of 132 countries and 92 out of 125 countries respectively, compared with Trinidad and Tobago's placement of 65, 55 and 72 for the same period (Economic and Social Survey Jamaica 2011: 4.14). With Jamaica's goal of becoming the ICT hub in the Caribbean (Economic and Social Survey Jamaica 2011: 4.15) there is the need for improvement in this area. These statistics further indicate the need for greater involvement of school administrators, curriculum planners, teachers and librarians in creating a learning and research environment that is more conducive to STEM. It is in this regard that this paper highlights the role academic librarians can play.

STEM Libraries in Jamaica

Jamaican libraries dedicated to STEM resources fall within the categories of special library or academic library. The UWI Mona Campus is the only academic institution in Jamaica having an entire branch / building (the Science Branch Library) dedicated to the collection and dissemination of STEM resources; the practice is for academic libraries to have select shelves dedicated to such resources. There are 24 dedicated STEM libraries in Jamaica[2].

These STEM libraries are however largely concentrated in the Kingston and St. Andrew metropolitan areas. Together, these 24 libraries form STIN, which is the premiere STEM information network in Jamaica, and in this capacity they have been able to advance access to STEM information, but not without challenges. Jamaica's current economic situation has led to budget cuts in a number of institutions. It has also raised questions about the value and relevance of libraries. As a result, libraries have had to strengthen the channels used to communicate their value.

Scientific and Technical Information Network (STIN)

Arts and culture dominated the aftermath of Jamaica's independence in 1962. It is therefore not surprising that by 1973 the Jamaican government eventually responded to UNESCO′s call for a Jamaican national information system (NATIS) by establishing the National Council on Libraries, Archives and Documentation Services (NACOLADS) to advise them on developing this NATIS. NACOLADS had 10 working parties including one with a focus on Information Services for Science and Technology, which recommended the development of a STIN as one of the essential components of the NATIS. In 1977 the Scientific Research Council (SRC) was designated to serve as the focal point for this STIN and had primary responsibility for coordinating the interests of the various STEM information units in Jamaica. To this end STIN was developed and remains the premiere STEM information network in Jamaica. STIN comprises the aforementioned libraries along with approximately 10 others. STIN has two regular meetings per year and an annual seminar or workshop hosted by the focal point. Although science and technology are the primary focus, it also includes medicine. STIN continues to encourage STEM awareness and strengthen STEM librarians' capacity to navigate the current information environment.

Literature review

This section explains how librarians can support STEM. Accordingly, it reviews the literature on strategies librarians have used to enhance STEM awareness. As nothing has been written on Jamaican academic librarians enhancing STEM education, this section focuses on work done outside Jamaica. The literature in this area is however, limited; this is an observation also underscored by Subramaniam et al. (2012: 163) who note: ''despite the tremendous interest surrounding young people and STEM education, the role of school libraries in these initiatives is rarely examined''. The literature reveals librarians can support STEM through building strong and current STEM collections, ensuring visibility of resources, using technology, and engaging corporative initiatives.

Collections or resources

Balack (2009), Duff (2010: 6), Anderton (2012: 44), Young (2012: 15), Hopwood (2012: 55), Mardis (2009: 10) and Subramanian et al. (2012: 172) all emphasize the importance of building a current STEM collection in enhancing STEM awareness amongst users. This suggests the need for librarians to regularly weed the collection and to become familiar with STEM catalogues and other bibliographic control tools to assist them in acquiring and maintaining current STEM resources. Hopwood (2012), Duff (2010), Young (2012: 15) and Mardis (2009: 10), however, were prescriptive in how the collection should be built. Hopwood (2012: 55) contends librarians should pair nonfiction titles with fictional ones to enforce real-world understanding. Similarly, Duff (2010: 6) prescribed the acquisition of STEM books that promote project-based learning, scientific experiments, science connections to sports, and science careers. Duff (2010: 19) also stressed the importance of ensuring engineering and mathematics are represented, especially those sources with a focus on girls. Young (2012:15) and Mardis (2009: 10) both highlighted the importance of diversifying the collection. Mardis (2009: 10) emphasized including and cataloging individual learning objects, while Young (2012:15) highlighted a mix of print, electronic and digital. Young (2012:15) and Duff (2010: 12), however, caution that this is only the beginning and that added work is needed to promote STEM awareness. According to Duff (2010: 12) STEM librarians must teach students how to utilize these resources and encourage use on a regular basis.

Visibility

The literature underscores the importance of visibility in promoting STEM awareness. A number of public service initiatives are recommended. Hopwood (2012: 54), as well as Duff (2010: 15), recommended creative STEM book displays. Duff (2010: 15) adds that the displays should be colorful and that all STEM book sections should be labeled for maximum visibility. Hopwood (2012: 55), on the other hand, adds that you should ''capitalize on what you are already doing through promotion and marketing''. As such, Hopwood contends that you should consider how you can reword current descriptions. ''For example if you are offering a hands-on activity, consider calling it a STEM workshop'' (Hopwood 2012: 55). This is a very useful and practical suggestion, especially for the Jamaican environment, where more emphasis is needed on the STEM concept. Anderton (2012: 45) also makes a similar suggestion but terms this branding and notes it helps the resources stand out. Additionally, Anderton (2012: 45–46) highlights the usefulness of newsletters and promotional materials and advertising STEM resources via social media tools. Subramaniam et al. (2012: 171) also add to the discussion by noting the value of school librarians providing reader advisory information.

Use of technology

The literature further highlights the incorporation of technology as a strategy to promote STEM awareness. It reveals that librarians should master technology and act as ''technology allies'' (Mardis 2009: 12). In this regard they should seek to help teachers ''incorporate technology, model innovative technology practices thereby enhancing classroom learning environment'' (Subramaniam et al. 2012: 176). They should also seek to help students. Duff (2010: 12) for example recommends that librarians should seek out STEM websites for students' use. In addition to the role that librarians should play, the literature also indicates a role for STEM teachers in collaboration with librarians. According to Duff (2010: 12) ''since it is important for students to use databases meaningfully, it is crucial that librarians and teachers in all subjects support this endeavor. For example, teachers may take steps such as assigning research projects that require database use and library visits''.

Integration and collaboration

Stellar (2009), Young (2012: 15), Anderton (2012: 46), Rubin (2010: 195), Hopwood (2012: 54) the Scholastic Research Foundation (2008: 12), Mardis (2009: 13), Lillard and Wales (2003: 316), Subramaniam et al. (2012: 174), Duff (2010: 5–6), and Tchangalova (2009: 3–4) affirm collaboration as a valuable initiative for the promotion of STEM library resources. Together, they suggest partnering within the library/school community as well as outside this environment. Stellar (2009), Rubin (2010), Young (2012), and Subramaniam et al. (2012) state that librarians should partner with STEM faculty. Rubin (2010: 195) ''school librarians are uniquely prepared for this role''. Rubin notes ''librarians collaborate with teachers to integrate the Internet into the classrooms, demonstrate the most effective search strategies, and create communities of learners. Similarly, Subramaniam et al. (2012: 173) reveal:

> In recent studies, school librarians are demonstrating these evolving roles as curricular partners who connect resources to formal STEM learning. For example, in an ongoing study at the University of Maryland, researchers are examining the science content in popular science fiction and aligning it with the Maryland Voluntary State Curriculum. The study participants highlighted science concepts in young adult literature such as *Life as We Knew It* by Susan Beth Pfeffer.

Duff's (2010: 5–6) work shows that STEM librarians present ''STEM Fiction Book Talks'' to all math classes, and tried to schedule STEM teachers to bring classes to the library just as much as humanities teachers in order to break the cycle of English classes monopolizing library time and space. While Stellar (2009), Rubin (2010), Young (2012) and Subramaniam et al. (2012) contend that librarians should partner with STEM faculty, Anderton (2012) suggests partnering with STEM students. According to Anderton (2012:46) ''there are science and math fans lurking all around your library. Recruit them to contribute their ideas on how to make science, technology, engineering, and math a stronger presence in your library''. Lillard and Wales (2003: 316), on the other hand, suggest collaborating with library associations. Mardis (2009: 13) and Hopwood (2012: 54) vary the discussion by suggesting that librarians partner with the outside world. Mardis (2009: 13) suggests a citizen science project in one's library while Hopwood (2012: 54) suggests partnering with community groups or businesses with a vested interest in STEM. Hopwood (2012: 54) notes ''libraries can benefit through financial support, resources, or even volunteers at events''. To add credence to this he further points out that ''many groups, like NASA, have informal education departments whose goal is to partner with institutions like libraries to provide out-of-school STEM based programs. The Boy Scouts of America recently launched a campaign to incorporate STEM into their programs''.

The literature reveals a number of value-adding opportunities that librarians can engage in to promote awareness of STEM.

Research methodology

Given the gap in the literature, the need for a case study approach was highlighted. Case studies are used to contribute to our knowledge of group and organizational related phenomena (Yin 2003: 1). The method also allows studies to retain the meaningful characteristics of organizational activities (Yin 2003: 2). Given these, the case study design was selected to contribute to librarians' knowledge of strategies that can be used to enhance STEM awareness and also to maintain the meaningful characteristics of library organizational activities geared at STEM awareness. Yin (2003: 85) notes a number of sources of evidence for case study design; of note are participant observation and direct observation. Participant observation was used to document the activities of the UWI Mona Campus, Science Branch library (SBL) in enhancing STEM awareness. In this regard the author, who is a staff member of the SBL, made extensive case notes on the activities of the SBL in promoting STEM.

Direct observation was also used. The author made notes in a diary about the practices she observed in the

various libraries and information related organizations she visited in the United States and Europe as a Jay Jordan IFLA/OCLC Early Career Development fellow in 2010. Strauss' (1987) in-vivo coding was then used to code the data. The codes that emerged were used as themes (same as strategies). Descriptive and theoretical memos were used to note similarities and differences and to capture the author's personal reflections; for example, being informed by her fellowship experience as well as the literature, she documented her personal reflections on the activities and strategies used by the SBL to promote STEM. In this way, opportunities for improvement of a particular strategy are noted, as well as criticisms or possible ways forward for other libraries. This process of reflexive analysis illuminated the strategies. Data was then presented using a thematic approach. Accordingly, the segments were presented thematically combined with the supporting descriptive and theoretical memos.

Data presentation and analysis

The findings revealed a number of ideas that librarians can implement to "STEM" their libraries, that is, to increase awareness of their significance. Some can be implemented independently; and others as part of partnerships and collaboration. These ideas can be useful for library staff, library users, and current non-users.

STEM Your Library Strategy 1: Re-Branding Your Environment

Every successful business depends on its image, the way its goods, services and environment are branded. Branding is a powerful communication tool that creates lasting images in the minds of patrons. Hood and Henderson (2005: 21) underscore the value of branding by adding that it increases the level of awareness amongst users. It is instructive in this regard that branding is an initiative that the UWI Mona libraries have engaged in, with distinct benefits.

Re-branding the STEM environment as "Inviting & Welcoming". Simply making STEM resources available and promoting these is not sufficient. A welcoming and inviting environment is needed to attract and keep STEM users. The UWI SBL for example explored the means to brand their environment as an inviting one. They adopted "Ask Me" pins, which staff members wear during the first two weeks of each semester. The objective of this is to encourage patrons to ask STEM-related questions, and it has been successful. When the library staff go into the rest of the university community, for example, the campus bank, they keep these pins tacked to their shirts, which invariably results in people asking questions about the library. Other libraries such as the Columbus Metropolitan Library, Columbus Ohio have extended this concept to the Reference Desk; which they have re-branded as "Ask Here". The University of Leiden library, Leiden, Netherlands has re-branded their reference area as "Info". This practice resonates with Anderton (2012: 45) and Hopwood (2012: 55) who too noted the importance of branding/re-wording. Roving STEM student representatives in the library can also be assigned to assist their peers. These roving students should approach patrons, ask how they are doing and whether they require any assistance in accessing STEM resources and facilities. The use of student assistants works really well as they can better relate to the challenges of their peers. This provides a practical example of Anderton's (2012: 45) suggestion to make use of students.

Re-branding the STEM catalog as a "One Stop Solution to Finding Information". According to Berry and Seltman (2007: 200) "a services brand is essentially a promise about the nature of a future experience with an organization or individual service provider". UWI Mona's catalog was re-branded "UWIlinC", promising the experience of quick linking to varied resources in print and electronic formats at various locations. To further increase the success of this strategy, staff members wear shirts with the "UWIlinC" name during the university's orientation period. They also had to find ways to increase the use of UWIlinC as an access provider to a number of databases with STEM information. To further encourage the use of these resources in completing term papers, they offer training sessions embedded in STEM courses. Lecturers are asked to make these library classes mandatory and to tie the content of at least one course assignment to these classes. This approach is supported throughout the literature; Coombs (2005: 603) for example, notes the correlation between the usage of databases and the databases being taught as part of the library's information session. The feedback received at the end of each library class also confirms the value of this approach; students note the usefulness of the training and have expressed the need to extend the time allotted for these sessions. Re-branding therefore becomes a motivator for awareness of STEM products and connection with STEM resources. This highlights the relevance of the work of Duff (2010: 5–6) and Sellar (2009) who pointed out the need to collaborate with faculty.

Re-branding the STEM environment as responsive to "Service Delivery Preferences". Today's library users have a

specific mode in which they want information products and services to be delivered. Users and non-users of the SBL have a particular preference for the delivery of STEM information products, services and spaces. Having coffee or water while reading or studying in the library is one of the new service delivery preferences. However, within the Caribbean, food and drink within libraries as well as indoor library cafés are concepts yet to be accepted and implemented by library management. Accordingly, the SBL's practice of prohibiting users to take bottled water for example inside the library is usually a daily source for tension between patrons and security personnel. To address similar issues STEM libraries can investigate the possibility of implementing initiatives that will create STEM awareness while at the same time address the issue of drinking in the library. For example, STEM library mugs can be implemented. These could be named UWI-STEM library mugs and these should be the no-spill rubber grip thermal mugs. Using this as a container, users would be allowed to take their personal drinking water with them into the library and more importantly, the branding of the mugs as "UWI-STEM" for example would create awareness of STEM library resources wherever patrons take these. Further, this initiative will demonstrate the library's responsiveness to cultural and generational changes such as service delivery preferences. Libraries cannot please users or attract non-users when their preferences and tastes are not met. Simply providing the product or the space is not sufficient; STEM libraries must cater to users' demands, tastes and preferences. As it relates to taking food in the library and having an indoor library café, this will require more creative initiatives, consideration of the Caribbean culture, climate and relevant policy that will accommodate users needs alongside the library's need to protect the collection.

STEM Your Library Strategy 2: Exhibitions in Non-Traditional Areas

The National Public Library of France (Paris) is located inside a shopping mall. This makes the library more visible, accessible, and convenient to use. Not many libraries have that advantage. As such, librarians have to begin thinking about creative ways to showcase their STEM resources. STEM information must then be displayed in highly populated areas.

At UWI, the SBL showcases its services and spaces in non-traditional areas. For example, it has a booth at the Annual Denbigh Agricultural Show. They display resources related to the theme of the show and offer prizes such as thumb drives, bookmarks, pencils and other gifts to attract users. This awareness initiative has encouraged requests for use of the library facilities. The SBL's response to these requests for use is guided by their use policy which is posted on the library's website.

The SBL also participate in UWI's annual research day, which is usually held in January/February. At this event, they showcase the range of services and products with the objective of showing visitors that should they decide to pursue a program of study they would have the required information support to enhance their success.

Although most of the SBL's clients come from the university community, they also have a large number of non-UWI clients. In this regard, non-traditional spaces should be considered for STEM resources promotion. For example, the Sovereign Centre, which is a major shopping center in Kingston, Jamaica can serve as the venue for library displays to create awareness of resources. Other non-traditional spaces include bill payment offices, inland revenue collection offices, utilities offices, and on- and off-campus food kiosks. Displaying STEM information in these areas also creates a greater presence for the university, which is particularly important in an increasingly competitive environment for educational institutions. This is in keeping with Hopwood's (2012: 54) and Duff's (2010: 5) suggestion to create attractive displays. SBL's practices however add to the literature by showing that displays can extend beyond the mundane areas to include non-traditional spaces.

STEM Your Library Strategy 3: STEM Information Commons

In a world characterized by the concepts "instant", "fast" and "convenient" it is imperative that as information providers, information is re-packaged in ready to use and easy to use forms.

UWI's SBL has created a list of faculty resources for each subject area. The listing is shared with students at the library's STEM information literacy training sessions. The SBL also created a list of useful resources for lecturers. This list includes print, electronic and online resources; web links and support organizations that students, especially graduate students are encouraged to join because of the professional and academic opportunities they provide. The listings are informed by the librarians' research, information they have obtained at conferences and workshops as well as recommendations made by faculty. This highlights the work of Duff (2010: 12) who pointed out the importance of seeking out web resources for students' use. One very important

resource that is included is the AskMona uniform resource locator. This is a virtual reference solution offered through the Online Computer Learning Centre (OCLC) in which all the librarians at UWI Mona participate. Librarians from the SBL as well as staff from the other libraries in the UWI system are scheduled to work at the virtual reference desk. During these time slots users can have live chats with librarians. If there is a question that requires the input of science librarians who might not be scheduled at that particular time, the query is forwarded to them. The library's virtual reference solution also has a knowledge bank which stores questions and answers for future use. The virtual reference service is a new service in Jamaica and UWI is the first institution to implement it. This strategy shows another practical way in which librarians can incorporate Subramaniam et al.'s (2012: 176) suggestion to incorporate technology.

The library's web page could also be updated to include these resources in a STEM Virtual Commons. The Commons could also provide tutorials on using the library's resources and writing STEM papers as well as links to software, webinars, research and funding opportunities. It could also include a skills bank, which is a listing of expertise in STEM so that STEM users can readily access these. It could also house lesson plans and other teaching support materials for students doing teaching degrees in STEM subjects.

STEM Your Library Strategy 4: Evidence-based Awareness

The flagging economy means there is less money going to educational institutions and therefore greater competition within organizations for the allocation of scarce resources. Librarians must demonstrate how they contribute to the parent institution. It is no longer good enough to report that you provided quick and current information to STEM lecturers and students; you answered 250 reference queries for the month; you conducted 200 information literacy sessions for the year. The essential question is: What was the value or impact of the information or the service provided? Librarians must therefore collect evidence that is specific to their particular library regarding the impact of STEM resources and information. If the library is perceived as an institution that has a direct positive impact on the faculty's and students' achievements, more users will become aware of its value and utilize its services. This will in turn encourage the parent institution to maintain the library's budget for STEM resources. Therefore instead of reporting you answered 250 reference queries for the year, select 3–5 students and track their use of the reference assistance given and its outcome. You may find for example that they were able to write term papers that received high grades. You should then collect this evidence and use it to inspire a report on the effect of your STEM library on academic achievement. An additional example includes photographing STEM students at their graduation ceremony and recording their testimonials of how they could not have reached graduation day without the library. Collect some of the presentations they did amongst other evidence and use these to create a display. This could be in the form of a mounted exhibit at campus food kiosks or the campus health center or this could take the form of a running PowerPoint presentation at the entrance of the library or at the entrance of the university's administrative office.

STEM Your Library Strategy 5: Responsive Culture

As part of the SBL's initiative to create and maintain STEM awareness, the science librarians attend the Faculty meetings for Science and Technology. At these meetings they document faculty's needs and examine the ways in which they can meet them. Follow-up meetings with STEM lecturers are conducted to further define their needs in relation to teaching duties and professional advancement. They have found, for example, that STEM lecturers have a particular interest in their impact factor. To address this, they conduct one-on-one sessions with faculty on how to use Web of Science as well as other resources to generate impact factor reports, which they use to support requests for tenure at the university. This service is well-supported and greatly appreciated by the faculty.

In the Web 2.0 era people expect a 24-hour access to information. With the growing number of busy STEM students and the expectation of around-the-clock library services, libraries need to demonstrate that they are responsive to the needs of their users. To meet some of these needs, the SBL revised its schedule to stay open 22.5 hours during the weekdays, from 8:30 a.m. to 6 a.m. On Saturdays they stay open from 8:30 a.m. to midnight and on Sundays – from noon to 8 p.m. to facilitate access to STEM resources. To cite other examples, in Europe a number of libraries have made use of NBD Biblion's book machine services. These machines are located inside and outside libraries dispensing books and other library materials. In the United States some libraries utilize the services of similar companies. For example, through the services of LaptopsAnytime™, Drexel University library dispenses MacBooks via vending machines. With the swipe of identification

cards students can borrow and return laptops anytime. Although the library may be closed, students have access to the digital collection. Westerville Public Library in Ohio added a ''drive-thru'' unit for its busy users which allows them to borrow and return materials without going into the building. In these examples, libraries' responsiveness to users' needs are encouraging.

STEM Your Library Strategy 6: Ever-present Image

Roving Exhibitions. STIN members are concentrated in Jamaica's corporate area and consequently there is the need to expand the reach of the services to off-campus communities. To address this need, STIN libraries created roving (traveling) exhibitions. In 2011 STIN's principal library, the Scientific Research Council (SRC) had an exhibition in Kingston which later moved to other parishes in Jamaica. This enabled rural areas to experience STEM resources and information in their communities which they may not have otherwise accessed. Information on how to use STEM resources should not be limited to the walls of the library and to only those who enter your building; your objective should include capturing and converting non-users. Your exhibitions could move, for example, from the library to the students' union for one week, then to the campus church for another week, then to the halls of residence for the following weeks, thereby providing better access, attracting non-users, increasing awareness of STEM products and services and enhancing the visibility of STEM libraries. This reveals how Duff's (2010: 15) and Hopwood's (2012: 54) ideas about displays can be further extended.

Roaming STEM Desks. In the world of blackberries and androids, roaming is a common concept and extending this to the library is rewarding. Similar to the roving exhibition concept, the library can set up a STEM resources desk in one location and then moves this to other highly student populated locations. With this, the library brings STEM resources and services to the users, thereby increasing users' awareness and building an ever-present image of the library.

Collaborative Benefit Performances. In Jamaica plays are a popular form of live entertainment. The Library and Information Association of Jamaica (LIAJA) usually collaborates with the theatre whereby they purchase a certain quantity of tickets, sell these and receive part of the profits. This is a concept STEM libraries can use to generate funds and at the same time create awareness of STEM resources. On one side of the ticket could be details about the play and on the other side you could have information on STEM resources pertaining to your library. During intermission (this is a 15 minutes break in the movie/play) persons purchase food items, view posters of upcoming movies/plays and mingle; with the collaborative plays, the library could have posters as well as a small booth with information on its STEM resources. In this way, during intermission, awareness of STEM resources is facilitated. Further, with multiple plays/movie running concurrently, persons who did not purchase tickets in support of the libraries' benefit performance but instead for another play could nevertheless benefit from the STEM posters and booth. This highlights the relevance of the work of Lillard and Wales (2003: 316) who suggest collaborating with library associations. It also brings to fore the value of Hopwood's (2012: 54) suggestion to partner with community groups and businesses.

Additionally, STEM librarians should attend non-library conferences and publish in non-library journals to increase awareness of their STEM resources and services. Visiting STEM-related clubs, societies, and associations and sharing information about resources and services is also of value.

Conclusion

Creating better awareness of STEM resources necessitates the implementation of a multitude of strategies targeted at users, non-users and staff. It requires rebranding the library in order to attract, enlighten and maintain users; using non-traditional areas for publicity and marketing with the objective of enlightening and attracting non-library users; developing an information space that is consistent with the Web 2.0 concepts that students can embrace; collaborating and providing tangible evidence of the delivery of actual as against just theoretical benefits. This paper therefore highlights implications for practice as well as for policy. Further, this paper suggests there will be increased demand for information professionals to make a greater STEM footprint. They will therefore need to be prepared to navigate this particular STEM environment. Librarians will need to adopt a multi-strategy approach to enhance awareness of STEM libraries and their resources. This paper also suggests some of the expanded roles that librarians will need to engage: notably, advocacy and marketing. In this regard librarians will need to equip themselves with the competencies required to create and implement advocacy and marketing policies that are relevant to the Caribbean context. There is also the intimation that librarians will need to develop policies regarding

the re-branding of library products, services and spaces to give emphasis to the STEM concept. Given the importance of STEM, the urgency of embarking on these initiatives is impatient of debate. At the same time the peculiarities of the academic library context will inform the implementation of these strategies.

Recommendations

With the new role that librarians will need to play, the UWI's Department of Library & Information Studies (DLIS), which is the largest trainer of librarians in the Caribbean, will need to revise the LIS curriculum to place emphasis on the concept STEM. They may need to revise the LIS curriculum and re-brand some of its courses. For example, the course Information Resources in the Sciences may need to be re-branded Information Resources for STEM and the content may need to be expanded to give energy to each area within the concept STEM. However, it should be pointed out though that one course will not solve all the problems, neither can LIS schools; LIS schools cannot cover every detail; they are designed to provide the basic elements for effective librarianship. STEM Librarians will also need to embark on continuing education with the view to including not just technology and math related courses but also courses in science and engineering. Given the pervasive importance of STEM in today's society LIS schools may also want to add another dimension to the fieldwork experience whereby students are aligned to an institution focusing on one or more of the following: science, technology, engineering or math. LIS schools should also consider partnering with STEM departments to offer LIS degrees with majors in science, technology, engineering and mathematics. Academic libraries need now more than ever to create an environment which promotes and supports STEM. Additionally, academic librarians need to articulate the contributions they have made to STEM education and awareness. These initiatives are likely to stimulate students' interest in STEM and augment STEM awareness.

Notes

1. The reports are: The Education Commission of the States, Keeping America Competitive: Five Strategies To Improve Mathematics and Science Education, July 2005; The Association of American Universities, National Defense Education and Innovation Initiative, Meeting America's Economic and Security Challenges in the 21st Century, January 2006; The National Academy of Sciences, Committee on Science, Engineering, and Public Policy, Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future, February 2006; The National Summit on Competitiveness, Statement of the National Summit on Competitiveness: Investing in U.S. Innovation, December 2005; The Business Roundtable, Tapping America's Potential: The Education for Innovation Initiative, July 2005; the Center for Strategic and International Studies, Waiting for Sputnik, 2005.
2. STEM libraries in Jamaica: Caribbean Maritime Institute, College of Agriculture, Science and Education, University of Technology, UWI Mona Campus, Bureau of Standards Jamaica, Caribbean Food & Nutrition Institute, Institute of Jamaica, Jamaica Bauxite Institute, Jamaica Trade & Invest, Mines & Geology, Ministry of Agriculture, Ministry of Energy & Mining, Ministry of Water, Land, Environment & Climate Change, National Environmental and Planning Agency, National Water Commission, National Works Agency, Office of Disaster Preparedness & Emergency Management, Petrojam Limited, Petroleum Corporation of Jamaica, Scientific Research Council, Sugar Industry Authority, Sugar Industry Research Institute, Urban Development Corporation, Water Resources Authority.

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Establishing information literacy principles as a foundation for cross-curricular scholarly investigation in England

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Abstract
A fundamental problem with the educational system in the United Kingdom is that the subject-based emphasis of the curriculum leads to a separation in the teaching and learning of related skills. Using a framework previously prepared by the author, which positions Information Literacy within the wider domain of scholarly investigation, this paper employs a meta-synthesis approach to construct a meta-model that unites much of the material currently dispersed across England's National Curriculum, and draws on the totality of the assembled content to outline a series of generic skills. The structure proposed here enables teachers to make connections between key aspects of what they cover in their own subjects and those addressed by colleagues concerned with other disciplines, and helps information professionals to recognize areas where their particular interventions will be most beneficial, in terms of promoting Information Literacy specifically and skills of more direct interest to subject practitioners.

Keywords
education; information literacy; scholarly investigation; schools, England

The problem

Back in the mid-1970s, when much information skills teaching in United Kingdom schools tended to consist of little more than library 'user education' or 'bibliographic instruction', Lindsay (1976) lamented the problem that the ''administrative separation'' of subjects which was characteristic of teaching in the secondary phase could all too easily lead to unintended forms of ''conceptual separation'' in the eyes of pupils (p. 20). In particular, he highlighted how youngsters who had been taught their library skills in English lessons may struggle to apply them in the context of, for example, social science work.

Lindsay's observation is indicative of the fragmentation of knowledge and skills at a wider level that remains prevalent in secondary schools. In discussing what he terms ''the subject ghetto'', Kelley (2008) argues that segregation resulting from a preoccupation with subjects is exhibited by the institutions, teachers, textbooks and examinations that constitute of the educational system (p. 31), and the independent coverage of fundamentally similar skills is an inevitable further consequence. It is an indication of the British government's awareness of this danger that National Curriculum documentation makes some attempt to encourage teachers to think beyond their particular discipline by offering cross references that link the content addressed in one subject with related areas addressed in others. Fragmentation is less of an issue at primary level than at secondary, since much of the children's educational experience in school is managed by a single individual who is responsible for teaching and learning in a range of curriculum areas, many of which have traditionally been united in cross-disciplinary theme lessons.

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Related work

This paper offers a framework for understanding how some of the concepts and practices associated with Information Literacy (IL) may be integrated into mainstream teaching in schools. In order to present a measure of background, the literature review will explore the relevant links that writers on IL have already forged in terms of the teaching of the skills. Essentially, there are four dimensions that are in evidence:

- the making of connections across different IL models
- the framing of IL against other modern-day 'literacies'
- a perspective that sees IL alongside other broad forms of scholarly investigation
- attempts to understand IL in terms of its relationship to the teaching of other, predominantly subject-based skills in schools.

Each of these dimensions will be addressed in the paragraphs that follow.

The last 30 years have seen the appearance of a great number of IL frameworks and there have been numerous efforts to compare their contents. In the mid-1990s, Herring (1996) drew attention to the high degree of "overlap between the range of information skills outlines" (p. 17), and to how "different researchers have produced similar but different lists or classifications of skills" (p. 25). Much more recently, Bawden and Robinson (2009) have detected an overall pattern:

> "the most commonly used and cited models of information literacy . . . involve some variation on linear stages of 'recognising a need for information – choosing the best sources – accessing information – evaluating information – organising and storing information – communicating and using information" (p. 187).

Several writers have identified highly specific similarities in relation to named frameworks. In their "comparison of information skills process models", Eisenberg and Brown (1992) emphasized their commonalities by arranging, side-by-side, the individual elements within four of the major frameworks and, just a few years later, Young (1999) used a similar approach to show how certain phases within three of the leading models were basically counterparts of each other. We can conclude, from the totality of this work, that a *consensus* has emerged with regard to what constitutes the key IL skills.

Whilst the comparisons made by writers such as Eisenberg and Brown (1992) and Young (1999) are likely to be of most interest to information professionals and LIS academics, work that has sought to apply IL models to wider subjects offers more appeal to teachers in schools. Eisenberg, Lowe and Spitzer (2004) consider the implications of the *Big6* approach for the teaching of Information and Communications Technology (ICT), thereby helping to create firmer links between IL and Computer Literacy. This congruence is consistent with the wider principle that "the computer is a tool that facilitates and extends our abilities to learn and to process information" (Eisenberg, Lowe and Spitzer 2004: 8). The IL framework offered by the Chartered Institute of Library and Information Professionals (CILIP) subsumes many areas of ICT competence within its skills breakdown. In discussing the stage of understanding how to work with or exploit results, for example, CILIP notes the importance of employing appropriate software, and understanding how to manage one's findings is deemed to embrace skills associated with the use of folders to organize computer-stored data, the treatment of emails and email attachments and the tracking of changes in documents (Abell et al 2005). Eisenberg, Lowe and Spitzer (2004) discuss IL alongside various other literacies, of which Computer Literacy is one, and assert that, through IL, the other literacies, which include visual, media and network, as well as computer, can be achieved. A similar argument is advanced by Mackey and Jacobson (2011), who present IL as an overarching "metaliteracy" that "unifies additional literacy types" (p. 76).

Although few attempts have been made to relate existing IL frameworks to the teaching of a range of subjects, the foundations of such an approach have been laid by Shenton (2009), who postulates that certain forms of scholarly investigation (specifically original research involving the collection and analysis of new data, scientific enquiry and finding and using existing information) share common characteristics and, as in the papers of Eisenberg and Brown (1992) and Young (1999), component-to-component mapping can be employed to demonstrate the essential equivalence of their major elements. In later work, Shenton has moved closer to the development of an overall meta-model by defining six broad stages found in all three modes of investigation:

- initiate enquiry
- plan action to follow
- implement; acquire material for scrutiny
- construct meaning
- record for others
- consider and assess.

(Shenton and Hay-Gibson, 2012).

Table 1. Relationship between generic phases of scholarly investigation defined by Shenton and Hay-Gibson (2012) and learning skills noted by the Library Association (1991).

Stages in the Shenton and Hay-Gibson (2012) framework	*Learning skills identified by the Library Association (1991)*
Initiate enquiry	Planning
Plan action to follow	
Implement; acquire material for scrutiny	Locating and gathering Selecting and appraising
Construct meaning	Organizing and recording
Record for others	Communicating and realizing
Consider and assess	Evaluating

If we accept that certain forms of scholarly investigation do indeed share a common basis, it follows that instruction and practice within one subject at school can not only be used to reinforce teaching points that have been made in other areas but can also contribute to students' more general understanding of the underlying principles and, in particular, demonstrate the wide range of their application. These links are often missed by pupils who are educated through learning programmes that deal in discrete subjects, as is especially the case in the secondary phase in Britain.

The purpose of this paper, then, lies in exploring the ways in which the six stages of investigation identified by Shenton and Hay-Gibson (2012) emerge across a variety of National Curriculum subjects. The analysis bears some comparison with work undertaken many years ago by the Library Association (1991), in that this body has also shown how the same generic scholarly processes are evident in fields as seemingly disparate as Mathematics, Science, English and Technology. As Table 1 demonstrates, the correspondence of the skills highlighted by the Library Association and those defined by Shenton and Hay-Gibson is considerable. Parallels can also be drawn between the Library Association framework and the Colvin-Keene Model of IL since there, too, the authors have mapped IL processes against an existing learning framework – in that case Bloom's well established *Taxonomy of Educational Objectives* (Keene, Colvin and Sissons, 2010). Early attempts to move IL teaching beyond old style 'user education' and position it within the wider educational mission of the school had been much less ambitious – frequently they took the form of addressing certain key areas as part of an often fragmentary 'study skills' programme. Lincoln (1987) reports how a "library use" element might be found within a sequence of sessions that might also tackle note-taking and essay writing, for example (p. 8). A similar picture is presented by Tabberer and Allman (1984), who comment that, at their time of writing, in general

> "study skills provision has included such items as planning and organizing one's time and work, using a library, strategies for reading, remembering, taking notes, preparing and writing essays, interpreting and preparing tables and diagrams, and revising for and taking examinations" (p. 3).

It should be appreciated that the true territory of the Library Association document is that of 'learning skills', rather than IL specifically. Unfortunately, its value has diminished very significantly during the last 20 years. In particular, its references to National Curriculum attainment targets and levels have become increasingly irrelevant over time, as one set of orders has been replaced by another. Indeed, when the document was written, the National Curriculum was still in its infancy and it may surprise readers to learn that IT as a discrete entity was addressed only as the final attainment target within the National Curriculum for Technology, i.e. as AT5, Information Technology Capability. The four preceding attainment targets covered Design Technology (Higgins 1995).

The Library Association's work in the early 1990s led the author to realize that the principles discussed in his previous papers (in particular Shenton, 2009 and Shenton and Hay-Gibson, 2012) could be taken to another, more subject-specific level, with the result that it might be possible to create a tool that enables senior managers in schools to make strategic, cross-disciplinary provision for the teaching of the various principles in which academic investigation is rooted. Such a tool would also allow information professionals to ascertain where, in relation to the National Curriculum, they can direct their efforts in giving IL a higher profile within schools by coupling instruction in their own area to the day-to-day territories of subject practitioners as well as helping to contribute to the development of skills more closely associated with the various disciplines involved. Fosmire (2012), in looking to extend IL's relevance, suggests that information professionals may aim to translate the language of IL into that of other disciplines; his particular field of interest is that of engineering education but his central point is equally appropriate in relation to the teaching of National Curriculum subjects in schools. Fosmire's more ambitious aspiration, namely that IL may "inform the pedagogy" of subject teachers (p. 47), is less easy to realize in a school setting, given that there are very clear differences between the paradigms and practices of information science on the one hand and education on the other (Shenton, 2011).

Comparisons can be drawn between the aim of this paper and the concept of ''consilience'', as discussed by E.O. Wilson. Elaborating on the notion, Wilson (1998) explains how ''consilience'' refers to a ''jumping together'' of knowledge (p. 6). Yet, whereas Wilson is concerned with ''the linking of facts and fact-based theory across disciplines to create a common groundwork of explanation'' (p. 6), in this paper the author seeks to highlight the key principles that underpin *skills* that have been seen to pertain to investigative activities which are known to emerge in different subject disciplines.

Study issues

The work leading to the writing of this paper began from the premise that the six generic actions which are integral to investigative scholarly activity and have been outlined previously by the author (Shenton and Hay-Gibson, 2012) may provide a useful framework for uniting forms of enquiry that emerge in the National Curriculum for individual subjects. In order to ascertain the viability of this principle, the author explored the following questions.

- Is the language employed in the 2012 paper appropriate for transfer to a National Curriculum context?
- If it is found to be unsuitable, is it possible to make minor linguistic modifications or should a different set of stages be constructed, perhaps similar to those proposed by the Library Association (1991)?
- What subjects, in particular, should be featured in the framework?

Methodology

Work to create the new model took the form of a meta-synthesis. This term is used here in a sense very similar to that in which it is employed by Derakhshan and Singh 2011). These authors define a meta-synthesis as ''a method of mixing a group of studies in order to find out the common essence in the data and translate that into a new understanding'' (p. 219). Only slight adjustment of Derakhshan and Singh's language is needed in order to provide the reader with an accurate understanding of the project whose outcome forms the subject of this paper. Instead of ''mixing a group of studies'', the author pooled the material relating to the National Curriculum for a range of subjects.

There is, however, some divergence of opinion as to what constitutes a meta-synthesis. Lee (2010) explains how it may involve ''the development of an explanatory theory or model that may explain the findings of a group of similar . . . studies'' (p. 221). Again, it must be stressed that there are no 'studies' as such scrutinized here and there has been no effort to evolve a theory of the kind envisaged by the authors. Nevertheless, Lee (2010) also points to the need to ''maintain the unique features of individual studies'' whilst still appreciating ''how various study results are related to each other'' (p. 221). These contrasting prerequisites can be understood in terms of the analysis presented in this paper. The individual references to the National Curriculum for the different subjects give insight into the unique particulars that relate to each area, and the overall stages present the broader, higher level constructs that unite them.

The meta-synthesis consisted of seven phases.

1. *Framing the study*, i.e. determining the questions that would guide the enquiry and the specific framework to be explored.
2. *Locating the material*, i.e. accessing the National Curriculum documentation from the Department for Education website (i.e. http://www.education.gov.uk/schools/teachingandlearning/curriculum).
3. *Identifying common themes*, i.e. combing the documentation so as to determine the potential of the intended framework in offering a way of unifying related, although scattered, material.
4. *Assembling a meta-model*, i.e. bringing together the appropriate National Curriculum content within overall headings, ensuring that each intended label is suitable and creating sub-categories where necessary.
5. *Verifying coherence,* i.e. ensuring that there is a clear consistency in the National Curriculum material cited within each of the six categories and no dispersal of this content across the different groups.
6. *Communicating and explicating*, i.e. presenting the model through tables and via a complementary textual commentary.
7. *Contextualizing in terms of Information Literacy and Information Behaviour* (IB), i.e. highlighting relevant ideas from these areas of information science in order to illuminate particular similarities and differences in emphasis between IL/IB and forms of scholarly investigation that are apparent in the National Curriculum.

The outcome of the meta-synthesis may be thought of as a meta-model of the type two variety that has

Table 2. National Curriculum content relating to Stage One (initiate enquiry).

Key Stage One	**Key Stage Two**
Ask questions (Science)	Ask questions (History)
Ask geographical questions (Geography)	Ask geographical questions (Geography)
Ask questions about the past (History)	Ask questions that can be investigated scientifically (Science)
Approach problems involving number, and data presented in a variety of forms, in order to identify what needs to be done (Mathematics)	
Key Stage Three	**Key Stage Four**
Ask questions (MFL)	Question scientific information or ideas (Science)
Identify specific historical questions or issues (History)	Question ideas, opinions, assumptions, beliefs and values (Citizenship)
Ask geographical questions, thinking critically, constructively and creatively (Geography)	Identify the mathematical elements of a situation or problem (Mathematics)
Reflect critically on historical questions or issues (History)	Simplify a situation or problem in order to represent it mathematically (Mathematics)

been defined by Shenton and Hay-Gibson (2012). The authors explain how a structure of this kind "affords a framework that has been distilled from a group of related models and, through the use, where necessary, of higher level concepts, effectively summarizes their key messages. Common features are generalized in such a way that the meta-model accommodates the pattern represented in each" (p. 99).

Suitability of the Shenton and Hay-Gibson framework

Overall, the framework previously presented by Shenton and Hay-Gibson (2012) was found to reflect satisfactorily the generic components within the National Curriculum relevant to scholarly investigation. Readers will, however, be able to determine for themselves the soundness of the fit between the labels and the subject-specific processes by examining Tables 2 to 7. Only two significant changes were made.

- The scope of the fourth stage, devoted to the construction of meaning, was widened to encompass the evaluation of material; this area had originally been felt to lie within the previous phase, which deals with the acquisition of material.
- It was decided that the penultimate phase, which the authors had termed "record for others", should be widened to "communicate to others", since this allowed the inclusion of oral methods that lie beyond "recording". The broadening is consistent with the author's earlier work relating to the nature of information (Shenton 2004a). Here he notes how Wersig and Neveling (1975) suggest that information may be defined as "recorded knowledge" (p. 136), although, in looking to operationalize the concept of information for research into IB, the author himself prefers to emphasize that the messages involved can be communicated, without necessarily being recorded.

Consideration was also given to extending the third stage so as to embrace not only the acquisition of data/information but also processes associated with mathematical calculation since both effectively lead to the possession of material that is integral to the development of a response to the situation that gave rise to the investigative activity. Ultimately, the possibility of such refinement was rejected as it would have meant expanding the category specifically to include processes relating to one particular subject and the shift was felt to take the territory too far from what was originally intended. Moreover, there would be a danger that the revised label would have to be so bland that it would fail to offer any real insight into the scope of the category.

The tables

By bringing together material from different subjects within panes featuring content from the same key stage, the tables enable the reader to gain an overall picture of the type of requirements, in relation to the area in question, that are demanded by the National Curriculum overall. Moreover, by arranging, within a single table, all the appropriate material relating to a particular strand, features of continuity and progression become apparent. The subject-related text within the tables adheres as closely as possible to the words of the National Curriculum itself. In all, material is taken from as many as 10 different subjects: English,

Mathematics, Science, Design and Technology, Geography, History, Information and Communications Technology (ICT), Modern Foreign Languages (MFL), Citizenship and Personal, Social and Health Education (PSHE).

The commentary

Whilst the analysis that led to the creation of this paper concentrated largely on individual skills which pertain to the various stages of independent investigation, it should be appreciated from the outset that, on several occasions, the National Curriculum documentation refers to broad processes that cut across all six phases. These include those of "research", "investigating"/ carrying out "investigative activities", problem solving and "critical thinking". As these terms have wide-ranging implications, it was felt inappropriate to cover them in the individual tables that are presented here.

1. Initiate enquiry (Table 2)

Within the National Curriculum documentation, easily the most frequently stated means of stimulating an investigation is the process of asking questions. Still, the drivers that prompt this action are varied – learners may, for example, be acting on their natural curiosity and personal observations, reflecting on what they have read or been told or responding in a more spontaneous manner to a particular argument advanced by a commentator. The precipitator for an enquiry need not necessarily be a question, however. An individual may be keen to address an issue or focused topic that relates in some way to the overall subject or look to understand a matter in terms which are relevant to that curriculum area. In these instances, there may be no question as such at all.

Much of the literature on IL recommends that learners devise questions for investigation at the beginning of a study (see, for example, National Council for Educational Technology 1993; Doyle 1994; Ryan and Capra 2001). Congdon (1978) advocates a hierarchical approach, with a series of "little questions" first being formulated before an overall "big question" is devised. Undoubtedly, a key challenge would seem to be that of framing a question or set of questions that are not only appropriate to the curriculum area involved but are suitable for investigation, too. It is clearly difficult for young enquirers, especially, to construct, entirely of their own volition, viable questions. Gross (2006), in acknowledging that formulating as well as responding to questions represents a "complex achievement", notes how success is determined by factors as diverse as "language development, socialization and culture and . . . understanding of logical structures" (p. 42). Nevertheless, the typology offered by Farmer (2007), who suggests that questions for investigation may relate to "clarification", "understanding", "evaluation" or "confirmation" (p. 41), would appear to afford a helpful guiding framework for teachers intent on facilitating pupil thinking. For some experts on research, the stage of question formulation is one of the most crucial in the whole of the investigative process. Yin (1994), a noted authority on case studies, goes so far as to argue that the nature of the question asked directly determines the type of research strategy adopted. For Wray and Lewis (1995), however, instead of generating questions, a more productive approach for school pupils may lie in creating a statement which defines the area for investigation and specifies what will be done with the information once it has been found.

2. Plan action to follow (Table 3)

Very often, consideration of the steps to be taken after the formulation of a question or identification of an issue for scrutiny will arise naturally from what has been done in the preceding stage. After all, having effectively formalized the need to find out, a logical follow-up lies in determining what must then be done in order to satisfy that need. In National Curriculum terms, planning may necessitate conceiving the action to be taken and breaking it down into stages, identifying several alternative approaches or giving particular thought to a certain aspect, such as the acquisition of data or some other kind of material. The course of action determined by the pupils may be influenced by advice offered by the teacher at this stage, which may include, for example, the need to adopt a problem-solving mindset.

In an IL or IB context, 'planning' typically includes preparing a search strategy which may begin with giving thought to the sources that will be consulted and from where they might be obtained. The planning activities that are evident within the *Big6* skills approach developed by Eisenberg and Berkowitz (2003) include determining the range of possible sources and the identification of those that might be considered priorities. These dimensions may be considered to form part of what the author, in a previous paper, has termed the "where/what" of information-seeking (Shenton 2004b: 244). Learners should also give thought to the addressing the 'how', i.e. the specific tactics to be employed when exploiting the identified sources. Preparation for tackling the 'how' may start with identifying keywords that will be employed when interacting with a search engine or library catalogue, or when consulting a back-of-the-book index. As Irving (1985) recognizes, such terms may emerge

Table 3. National Curriculum content relating to Stage Two (plan action to follow).

Key Stage One	**Key Stage Two**
Plan own writing (English)	Decide how answers can be found to questions that can be investigated scientifically and what sources will be used (Science)
Decide how answers might be found to own questions (Science)	Generate ideas for products, putting together a list of what the design is to achieve; plan what is to be done (Design and Technology)
Plan by suggesting what to do next as own ideas develop (Design and Technology)	Break down a more complex problem or calculation into simpler steps (Mathematics)
Develop flexible approaches to problem solving (Mathematics)	Find different ways of approaching a problem (Mathematics)
Make decisions about which operations and problem-solving strategies to use (Mathematics)	Identify data necessary to solve a given problem (Mathematics)
	Talk about what information is needed and how it can be found and used (ICT)
Key Stage Three	**Key Stage Four**
Plan geographical enquiries (Geography)	Plan to test a scientific idea, answer a scientific question or solve a scientific problem (Science)
Plan practical and investigative activities (Science)	Plan action to address citizenship issues (Citizenship)
Plan enquiries into issues and problems (Citizenship)	Compare and evaluate representations of a situation before making a choice (Mathematics)
Plan and organize activities (Design and Technology)	Identify a range of techniques that could be used to tackle a problem (Mathematics)
Respond creatively to briefs, developing proposals and specifications (Design and Technology)	Analyse systematically the information requirements to solve a range of problems (ICT)
Work logically towards results and solutions (Mathematics)	
Appreciate that there are a number of different techniques that can be used to analyse a situation (Mathematics)	
Consider systematically the information needed to solve a problem, complete a task or answer a question (ICT)	

from the assignment brief and the pupils' existing knowledge.

3. Implement; acquire material for scrutiny (Table 4)

'Implementing' is here regarded as beginning to put into effect the action plan determined by the learner, especially through the gaining of material with which the individual can then work. The types of material that the National Curriculum recommends should be utilized by pupils are diverse and range from personally collected data, such as observations and measurements recorded by the individual, to well established reference tools, like globes and atlases in a geographical context. A recurrent theme is that the sources of information which are employed should be varied. It is also established that particular techniques should be applied when using the materials. These include the exploitation of "organisational features", which may be assumed to embrace bibliographical tools such as contents lists and back-of-the-book indexes, and, once appropriate material has been located, higher order reading skills.

Some of the more detailed IL models advocate that learners put into practice advanced reading skills similar to those championed in the National Curriculum for English. Marland (1981), for example, draws attention to "scanning for facts, skimming for information and meaning" when "interrogating resources" (p. 33) and, in exploring the "science of library and book skills", Coles, Shepherd and White (1982) point to how the SQ3R model promotes reading strategies "with an active mental involvement" (pp. 200, 201). Another framework is provided by Tibbitts (1992). She outlines how the reader may scan, skim or undertake receptive or reflective reading depending on their purpose. These actions can be seen as the culmination of an increasingly focused pursuit in which attention is gradually shifted from the identification of potentially useful environments and materials to the combing of the material within, often after appropriate parts have been identified through finding aids that permit what Shenton and Dixon (2003) term "selective access" (p. 60).

The documentation for Key Stage Two Science treats first-hand experience as a source of information

Table 4. National Curriculum content relating to Stage Three (implement; acquire material for scrutiny).

Key Stage One	**Key Stage Two**
Find out about the past from a range of sources of information (History) Gather information from a variety of sources (ICT) Use print and ICT-based information texts (English) Use secondary sources of information (Geography) Observe and record (Geography) Make and record observations and measurements (Science) Use first-hand experience and simple information sources to answer questions (Science) Use reference material for different purposes (English) Read; use knowledge of book conventions (English) Use organisational features of non-fiction texts to find information (English)	Find information and advice (Citizenship) Work with a range of information (ICT) Work with others to explore a variety of information sources (ICT) Find out about events, people and changes from an appropriate range of sources (History) Use secondary sources of information (Geography) Select suitable sources and find information (ICT) Use appropriate fieldwork techniques (Geography) Make systematic observations and measurements (Science) Collect and record evidence (Geography) Use atlases and globes (Geography) Select information (History) Engage with challenging and demanding subject matter (English) Choose material that is relevant to the topic and to the listeners (English) Scan, skim, obtain specific information and draw on different features of texts when reading (English) Exploit organizational features and systems to find information (English)
Key Stage Three	**Key Stage Four**
Use a range of scientific methods and techniques (Science) Use a range of information and sources (Citizenship) Explore sources of information about work and enterprise (PSHE) Identify, select and use a range of historical sources (History) Use a variety of information sources to explore options and choices in career and financial contexts (PSHE) Engage with someone else's mathematical reasoning (Mathematics) Use reference materials appropriately and effectively (MFL) Obtain and record data from a range of primary and secondary sources (Science) Select mathematical information to use (Mathematics) Collect and enter qualitative and quantitative information (ICT) Collect and record information (Geography) Use atlases, globes, maps at a range of scales, photographs, satellite images and other geographical data (Geography) Use and refine search methods (ICT)	Use a range of information and sources (Citizenship) Collect data from primary or secondary sources (Science) Identify and select a range of information sources to research (PSHE) Find information, advice and support from a variety of sources (PSHE) Select mathematical information to use (Mathematics) Select appropriate information from a wide range of sources (ICT) Collect scientific data (Science)

that may be used to answer questions. Whilst information scientists may feel that such a stance points to a clear difference between the nature of scholarly investigation that is apparent in the National Curriculum and traditional notions of information-seeking and use in their own field, which frequently represent information as a physical entity (Shenton 2004a), this more restricted perspective is not universally held in LIS. It is striking that, although a library-oriented emphasis has been detected by Case (2007) in Krikelas's much quoted model of information-seeking (Krikelas 1983), the framework nonetheless indicates that sources may be internal, as well as external, and involve, for example, memory and direct observations. The latter characteristic is consistent with the comment of Madden, Palimi and Bryson (2005) that, through the use of scent, sound and tracks, animals derive ''information'' from the environment.

Table 5. National Curriculum content relating to Stage Four (construct meaning)

Key Stage One

As a formative process

Explore experience (English)
Organize own work (Mathematics)
Assemble and develop ideas on paper and on screen (English)

From raw material

Use simple lists, tables and charts to sort, classify and organize information (Mathematics)
Organize and explain information (English)

Use of prior/wider knowledge

Make simple comparisons and identify simple patterns or associations (Science)
Compare what happened with what they expected to happen, and try to explain it (Science)

For creation of subject-related outcomes

Answer questions about the past (History)
Make observations about where things are located (Geography)
Recognize changes in physical and human features (Geography)

Key Stage Two

As a formative process

Develop and refine ideas by bringing together, organising and reorganizing material (ICT)
Use ICT to help in geographical investigations (Geography)

From raw material

Interpret tables, lists and charts used in everyday life (Mathematics)
Use statistics and graphs (Mathematics)
Use observations, measurements or other data (Science)
Classify information (ICT)
Interpret information (ICT)
Organize information (History)
Identify the gist of an account or key points (English)

Use of prior/wider knowledge

Make comparisons and identify simple patterns or associations (Science)
Use scientific knowledge and understanding to explain (Science)

For creation of subject-related outcomes

Answer questions (History)
Identify and explain different views (Geography)

Evaluation

Check information for accuracy and relevance (ICT)
Review the work of others (Science)
Consider an argument critically (English)

Key Stage Three

As a formative process

Generate and harness new ideas (English)

From raw material

Analyse data from a range of primary and secondary sources (Science)
Engage with and reflect on different ideas, opinions, beliefs and values; use a range of information and sources (Citizenship)
Look at data to find patterns and exceptions (Mathematics)
Explain results (Mathematics)
Analyse information (ICT)
Sift, summarize and use the most important points within content (English)
Extract and interpret information; infer and deduce meanings; select and compare information from different texts (English)
Recognize and discuss different interpretations of texts (English)
Summarize and take notes (English)
Listen for gist or detail (MFL)
Skim and scan written texts (MFL)

Use of prior/wider knowledge

Make connections within Mathematics; use knowledge of related patterns (Mathematics)

Key Stage Four

From raw material

Analyse scientific data (Science)
Analyse and interpret scientific information (Science)
Look at data to find patterns and exceptions (Mathematics)
Interpret data so as to provide evidence to test ideas and develop theories (Science)
Make sense of someone else's findings (Mathematics)
Explore, develop and interpret information (ICT)
Listen to complex information and respond critically, constructively and cogently (English)
Analyse information and ideas from texts (English)
Select, compare, summarize and synthesize information from different texts (English)
Develop and sustain independent interpretations of what has been read (English)
Summarize and take notes (English)

Use of prior/wider knowledge

Make connections within Mathematics; use knowledge of related problems (Mathematics)
Give examples of similar contexts previously encountered (Mathematics)

(continued)

Table 5. (continued)

For creation of subject-related outcomes	*For creation of subject-related outcomes*
Identify and classify patterns (Mathematics)	Identify and classify patterns; make and justify conjectures and generalizations (Mathematics)
Make and begin to justify conjectures and generalizations (Mathematics)	Form convincing arguments to justify findings and general statements (Mathematics)
Form convincing arguments based on findings (Mathematics)	Develop an argument and draw a conclusion (Science)
Develop logical arguments (English)	Explain own viewpoint and draw conclusions (Citizenship)
Form own view (English)	Present a convincing argument (Citizenship)
	Use knowledge and understanding to make informed choices (PSHE)
Evaluation	*Evaluation*
Evaluate information (ICT)	Evaluate information and ideas from texts (English)
Evaluate evidence (Geography)	Evaluate different viewpoints and ideas (Citizenship)
Evaluate the sources used in order to reach reasoned conclusions (History)	Evaluate information, advice and support from a variety of sources (PSHE)
Analyse and evaluate sources used (Citizenship)	Critically evaluate and justify information choices (ICT)
Be aware of the strength of empirical evidence (Mathematics)	Analyse critically sources used (Citizenship)
Assess the usefulness of texts, sift the relevant from the irrelevant (English)	Appreciate the strength of empirical evidence (Mathematics)
Identify bias, opinion and abuse of evidence in sources (Geography)	Judge the value, accuracy, plausibility and bias of information (ICT)
Recognize bias and inaccuracies in information (PSHE)	Recognize bias in sources (Citizenship)
	Recognize bias and inaccuracies in information (PSHE)

4. Construct meaning (Table 5)

The construction of meaning in the sense intended here may be defined as the use of internal processes to develop, either from acquired material or from past experience, insights hitherto unknown to the individual. In a National Curriculum context, these "insights" may be as diverse as subject-related knowledge/understanding, discoveries that contribute to the solution of a problem or a critical appreciation of a particular source that has been consulted. This fourth phase may include the generating of ideas which help to drive forward the investigative activity or the arranging of one's work in such a way that cognitive progress towards an end result is achieved. The mental processes pertaining to the construction of meaning may eventually lead to a firm outcome, such as an argument, a conclusion or a generalization, or simply the answering of a question. Yet, where a learner is intent on responding to a particular question, it is pertinent to note a subtle distinction made by Kuhlthau, Maniotes and Caspari (2007) in their model of guided enquiry. They suggest that it is helpful to encourage pupils to *address* questions in their investigations, rather than *answer* them. The former, they maintain, is more likely to lead to new and deeper understanding.

Much is often made in the study of IB of how, in the 'use' phase, material that has been accessed affects one's knowledge. Todd (2006), for example, asserts that information use involves "the transformation and integration of found information into existing knowledge, and the creation of new knowledge". In his PLUS model of information skills, Herring (1996) also emphasizes the cognitive dimension of information use when he states that this stage includes evaluating material, taking notes systematically in a way that reflects the individual's understanding and purpose, and relating the material to one's existing knowledge. From Herring's reference to note-taking, we can conclude that this phase is not an exclusively "in the head" phenomenon and key features of it may be apparent from an individual's external behaviour. Such a stance is supported by TD Wilson, who maintains that information use includes physical acts associated with the incorporation of information into a person's existing knowledge base, such as the marking of portions of text that has been retrieved to indicate their importance or significance to the reader (Wilson 2000).

Table 6. National Curriculum content relating to Stage Five (communicate to others).

Key Stage One

- Present completed work effectively (ICT)
- Present results in an organized way (Mathematics)
- Use mathematical communication and explanation skills (Mathematics)
- Share ideas by presenting information in a variety of forms (ICT)
- Select from own knowledge of history and communicate it in a variety of ways (History)
- Communicate in different ways (Geography)
- Communicate results in a variety of ways (Science)
- Communicate ideas using a variety of methods (Design and Technology)
- Communicate in spoken, pictorial and written form (Mathematics)
- Make maps and plans (Geography)
- Use correct language, symbols and vocabulary (Mathematics)

Key Stage Two

- Record information (History)
- Recall and re-present important features of an argument, talk, reading, radio, television programme or film (English)
- Share and exchange information (ICT)
- Communicate one's knowledge and understanding of history in a variety of ways (History)
- Use a wide range of methods to communicate data in an appropriate and systematic manner (Science)
- When composing text, choose form and content suitable for the purpose (English)
- Decide how best to organize and present findings (Mathematics)
- Communicate in ways appropriate to the task and audience (Geography)
- Present to different audiences (English)
- Be sensitive to the needs of the others and think carefully about the content and quality when communicating information (ICT)
- Use appropriate language and style when writing (English)
- Use features of layout, presentation and organization effectively when writing (English)
- Communicate mathematically (Mathematics)
- Use precise mathematical language and vocabulary (Mathematics)

Key Stage Three

- Communicate information effectively, safely and responsibly (ICT)
- Display information (Geography)
- Record methods, solutions and conclusions (Mathematics)
- Communicate findings effectively (Mathematics)
- Communicate one's knowledge and understanding of history in a variety of ways (History)
- Use appropriate methods to communicate scientific information (Science)
- Present and organize accounts and explanations about the past that are coherent, structured and substantiated (History)
- Engage an audience (English)
- Present information and points of view clearly and appropriately in different contexts (English)
- Use a range of ICT tools to present information in forms that are fit for purpose, meet audience needs and suit the content (ICT)
- Bring together, draft and refine information (ICT)
- Use planning, drafting, editing, proofreading and self-evaluation to shape and craft writing (English)
- Construct maps and plans at a variety of scales (Geography)
- Make accurate mathematical diagrams, graphs and constructions (Mathematics)
- Communicate knowledge and understanding using geographical vocabulary (Geography)
- Use technical terms appropriately and correctly (ICT)

Key Stage Four

- Communicate and exchange information safely, responsibly and securely (ICT)
- Use a range of ICT tools and media to share, exchange and present information effectively (ICT)
- Present information (Science)
- Record methods, results and conclusions (Mathematics)
- Engage in mathematical discussion of results (Mathematics)
- Use a range of forms to communicate to different audiences (Mathematics)
- Present information clearly and persuasively to others (English)
- Present information on complex subjects concisely, logically and persuasively (English)
- Establish and sustain a consistent point of view in non-fiction writing (English)
- Support own views by incorporating different kinds of evidence (English)
- Make accurate mathematical diagrams, graphs and constructions (Mathematics)

Table 7. National Curriculum content relating to Stage Six (consider and assess).

Key Stage One	**Key Stage Two**
Check own work (Mathematics)	Review what one has done (ICT)
Discuss what has been done (Mathematics)	Review own work (Science)
Review own work and explain to others what was done (Science)	Check results and ensure that solutions are reasonable (Mathematics)
Review own writing, discussing quality of what is written (English)	Discuss and evaluate own writing (English)
Review what one has done to help with idea development (ICT)	Describe and talk about the effectiveness of own work (ICT)
Talk about what might be changed in future work (ICT)	Talk about how future work could be improved (ICT)
Identify what could have been done differently or how own work could be improved in the future (Design and Technology)	Reflect on progress of own work during design and make stages, identifying how product could be improved (Design and Technology)
Key Stage Three	**Key Stage Four**
Consider the effectiveness of alternative strategies (Mathematics)	Consider the elegance and efficiency of alternative solutions (Mathematics)
Consider the elegance and efficiency of alternative solutions (Mathematics)	Reflect and comment critically on own performance (English)
Reflect on own use of ICT (ICT)	Check working (Mathematics)
Review, modify and evaluate own work (ICT)	Evaluate data collection methods (Science)
Reflect critically when evaluating and modifying own ideas (Design and Technology)	Review, modify and evaluate work (ICT)
Redraft writing to improve accuracy and quality (MFL)	Use planning, drafting, editing, proof-reading and self-evaluation to revise and craft own writing (English)
Proofread and self-evaluate to shape and craft writing (English)	Act on feedback from others (ICT)
Reflect on what has been learnt and use these insights to improve future work (ICT)	Take account of feedback and learn from mistakes (Mathematics)
Take account of feedback and learn from mistakes (Mathematics)	

5. Communicate to others (Table 6)

Several recurring requirements in this area can be isolated when the totality of the National Curriculum documentation pertinent to this phase is considered. Learners are expected to use a variety of means of communication competently across a range of scenarios; they should employ techniques and vocabulary that are appropriate to both the discipline and the material they are intent on conveying; they must be mindful of their purpose and the audience/readership; as their maturity grows, it is envisaged that they adopt increasingly demanding features of effective writing, such as the use of evidence in establishing a case or argument, and improve a piece of work gradually over time.

The penultimate strand within the CILIP definition of IL emphasizes the need to communicate or share one's findings with others (Abell et al 2005). Again, the matter of doing so *appropriately* is raised, in terms of the information itself, the audience and the situation. The body also indicates the importance of employing a suitable style, and of including citations and footnotes. Drawing on material from the final report of the American Library Association Presidential Committee on Information Literacy, Breivik and Senn (1998) assert that an information literate person will use information effectively "to address the problem or issue at hand" (p. 21). In a school context, perhaps the clearest outcomes that are produced in response to such problems or issues take the form of personally prepared documents, spoken presentations or oral contributions to class discussions. It should not be forgotten, however, that, even after information has been used effectively in the construction of meaning, the new understanding may not be explicitly communicated. It may be sufficient for the pupil simply 'to know' or, as Doyle (1994) points out, the new understanding may manifest itself through improved problem solving skills or critical thinking which is brought to bear in future practical or intellectual situations.

6. Consider and assess (Table 7)

This phase deals with the evaluation of one's own work and efforts; it should not be confused with the appraisal

of material produced by others and examined as sources – an area embraced in the construction of meaning element forming Stage Four. In its most basic form evident in the National Curriculum, ''considering and assessing'' may involve merely checking one's work but the process can be extended into thinking about how what has been done can be improved and how feedback from others may be accommodated. Particular attention may be focused on one particular element within the overall process; in Key Stage Four Science, the scrutiny of data collection methods that have been employed is singled out for special attention.

Self-evaluation forms the last component within the PLUS model of information skills. Here Herring (1996) notes the importance of reflecting on the processes associated with assignment work. His other major focus of interest – identifying areas for improvement in the individual's use of information resources in the future – is indicative of his overall emphasis on information, rather than simply the investigative process generally. Although Paterson (1981), in exploring the final element in his information skills checklist – that of ''development'' – also stresses the information aspect of the evaluation stage (p. 9), he addresses both product and process dimensions. For Eisenberg and Berkowitz (2003), these can be seen to relate to translate into matters of ''effectiveness'' and ''efficiency'' respectively (p. 15).

Caveats

One of the weaknesses of the approach that has been taken here is that breaking down the investigative process according to six major stages is somewhat artificial, since each is just one element within a whole task. Parallels can be drawn between this situation and the study of IB which, very often, is seen to embrace a sequence which, in its entirety, embraces the recognition of an information need, the pursuit of material in response to the need and the use of what has been found in order to resolve the situation that motivated the seeking action. As Vakkari (1997) recognizes, ''Methodically 'information needs' and 'seeking' are only analytical differentiations for the purpose of analysis. Methodologically they will be treated as functions of a broader task or problem situation to be coped with'' (p. 457).

Readers should also be aware that, whilst the way in which the individual elements have been presented here and, in particular, their numbering from one to six imply that they form a single linear sequence, this may not always be the case. Let us consider two cases in point. When a learner examines information with a view to constructing meaning, this may lead to the emergence of new questions, a development which effectively returns the enquiry to Stage One. Similarly, if the evaluation of information (covered within Stage Four) reveals that the material is unsuitable, this may mean a new quest for appropriate material has to be initiated, so returning the sequence to the second phase. It is perhaps more useful, then, to think of investigative activity as the combining of the elements presented here, rather than a predictable chronological sequence. Again, this is consistent with conceptions of IB. After outlining a series of elements, Westbrook (1993) concludes by observing, ''Rather than a sequence . . . information seeking might best be described as the interconnection of these activities'' (p. 546).

It should also be appreciated that some of the individual tasks specified in the National Curriculum documentation may emerge in more than one position within the enquiry process. Documentation for Key Stage Four Science indicates that pupils should ''evaluate data collection methods''. One approach would be to think of this activity as integral to the ''consider and assess'' category, with the pupil reflecting on one of the key components within the enquiry they have just undertaken. Such evaluation may also be regarded as part of the planning phase, however, with pupils reaching judgements on the effectiveness of various techniques before finalizing their decision to use one in particular. The placement of other processes is a more subjective decision that rests in the hands of the model creator. The use of higher order reading skills, for example, may be viewed both as a means of locating relevant material in text and as a method by which the individual constructs meaning. Such skills could, with good justification, be positioned within either Stage Three or Four.

Conclusions

No claim is made that the framework which has been advanced in this paper provides a definitive analysis of the generic skills featured in the National Curriculum taught in England. Inevitably, the orders will change over time and, indeed, a new version of the National Curriculum is due to come into effect within schools as soon as September 2014. It would seem unlikely, however, that revisions in the months and years ahead will be so radical as to negate entirely the value of the model presented here. Indeed, it is an indication of the longstanding relevance of the core skills that they are evident in such well established forms of investigation as research involving the collection and analysis of new data, scientific enquiry and IL. Where teachers are able to stress the importance of the areas that have been discussed in this article, afford pupils substantial opportunities to practise

Table 8. Comparison of components found in author's framework of enquiry and those in BCTLA model of teacher research.

Own framework evolved from National Curriculum	*BCTLA elements in teacher research model*
Initiate enquiry	Focus and refine
Plan action to follow	
Implement; acquire material for scrutiny	Collect
Construct meaning	Make meaning
Record for others	Report
Consider and assess	Reflect

them and make pertinent links with other subjects, they undoubtedly help to enhance learning not only in their own disciplines but also across the curriculum and to promote forms of scholarly activity that are widely undertaken beyond the school years.

When the National Curriculum documentation associated with each subject was examined for the purposes of preparing this paper, it became increasingly obvious that the essential principles which are apparent in individual stages of IL both transcend and underpin the teaching of investigative skills in many different areas. Whilst the contexts in which these skills are often applied in the National Curriculum may not always be seen by teachers to embrace 'information' in the sense that they conceive of the concept, processes which are fundamental to IL nonetheless lie at the heart of much teaching and learning within the English school, whether it be primary or secondary.

Although the paper offered here will probably be of most interest to educators in England, it should not be assumed that its usefulness will necessarily be limited to teachers and information professionals in that country. Readers who are based further afield and live in places whose educational systems lack an equivalent to England's National Curriculum may well see value in adopting the model of investigation that has been proposed and employing it in their own situations. It is a further indication of the wide-ranging relevance of the framework's contents, here in a geographical sense, that the individual elements bear strong similarities to those within a model of "teacher research" proposed in Canada by the British Columbia Teacher-librarians' Association (undated). Table 8 provides a direct comparison. In addition, readers who are keen to develop their own models from source material that has been produced in their own countries may find merit in following the methodology that has been outlined in order to evolve new frameworks which accommodate local priorities and issues.

Implications for the information professional

Given the remit of the *IFLA Journal*, it would seem appropriate to complete this paper with a short breakdown of the ways in which librarians can facilitate the enquiry process that has been addressed here. Information professionals in schools would seem to have particularly important roles to play in

- crystallizing the nature of the territory for an investigation so that either a viable question can be posed by the pupil or the issue which has been isolated is of appropriate scope for a project of the type intended to take place
- helping the learner to conceive a plan of action that exploits the individual's skills and the resources available to them, including those that relate to libraries within the school and the wider community
- assisting the youngster in accessing pertinent information and developing their skills in this area where possible
- enabling the enquirer to make sense of the material that has been retrieved, in terms of both its value to the task and its intrinsic content
- facilitating the writing/creation process directly by offering pointers to the youngster in advance of the work being constructed, reading drafts and asking the pupil to address particular shortcomings that are apparent
- aiding the process in which the learner appraises the end result of their efforts. Taking a lead from what is shown to them, the information professional may, for example, suggest questions that stimulate evaluation or employ a more generic approach, returning attention to the assignment brief and inviting the learner simply to consider how far the teacher's original stipulations have been met.

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Abstracts

المُتخصصين بأولائك العائدين من البعثات؛ حيث أثبت الوضع الحالي التأثير السلبي لتعيين غير المُتخصصين على المكتبات.

آثار سلوك تبادل المعرفة: دراسة عن كليات علوم المكتبات وإدارة المكتبات في بنجلاديش:

Md. Anwarul Islam, Mitsuru Ikeda, Md. Maidul Islam
العدد 39 (2013) من مجلة الإفلا المُتخصصة، رقم 3، ص.:221-234

يتخذ هذا البحث قياس سلوك تبادل المعرفة في كليات علوم المعلومات وإدارة المكتبات أساسًا له. وتحتل العوامل الرئيسية التي قد تؤثر على سلوك تبادل المعرفة جزءًا هامًا من البحث. وقد وُضع استبيانًا استقصائيًا واستُخدم فيه جمع بيانات ديموغرافية وأكاديمية عن الكليات وما لديها من مفاهيم واتجاهات وأهداف ودوافع جوهرية لتبادل المعرفة. ولتحليل أثر سمات الكليات الديموغرافية والتي تختص بها كل كلية أجريت اختبارات Mann-Whitneyو Kruskal-Wallis والتي أظهرت عدم وجود فرق كبير بين سلوكيات معلمي علوم المكتبات والمعلومات في تبادل المعرفة. ووجد الباحثون علاقة هامة 0.000 (القيمة الاحتمالية>0.05) بين سلوك المُعلم في تبادل المعرفة ونيته من ورائها. ويُعتقد أن هذه النتائج ستُساعد القائمين على إدارة المعرفة المسئولين على تصميم نُظم مرنة لتبادل المعلومات. وكانت هذه هي المرة الأولى التي أقيمت فيها مجهودات لتقييم مفاهيم وسلوكيات ودوافع كليات علوم المكتبات والمعلومات لتبادل المعلومات في بنجلاديش. ويشعر أصحاب هذا البحث أنه سيُشجع على عمل أبحاث أخرى مُماثلة حول سلوكيات تبادل المعرفة في بنجلاديش وغيرها.

تأسيس مكتبة لجنة الانتخابات في نيبال:

Ramesh Prajuli, Susan Garner
العدد 39 (2013) من مجلة الإفلا المُتخصصة، رقم 3، ص.:235-242

لقد شهدت قصة تنمية الديمقراطية في نيبال واحتمالية إجراء أول انتخابات في ظل دستور جديد، افتتاح مكتبة فريدة من نوعها تحت رعاية لجنة الانتخابات بنيبال (ECN) بمُساعدة اللجنة الانتخابية الأسترالية (AEC) وبرنامج الأمم المُتحدة الإنمائي (UNDP) من خلال المؤسسة الدولية للنظم الانتخابية (IFES) وقد أخذت هذه المكتبة في النمو منذ إنشائها. جمعت المكتبة السجلات والأرشيف في مبنى جديد ووضعت حتى الآن سياسات غير مُعتادة وعملت على تدريب العاملين بها وتسعى جاهدة لتوسعة نطاق جمهورها ؛ لتتخطى

قتطفات

وأد وثيقة الحق في المعلومات في بتسوانا:

Emmanuel Kopang Botlhale Kaelo Molefhe
العدد 39 (2013) من مجلة الإفلا المُتخصصة، رقم 3، ص.:204-213

تُناقش هذه الورقة البحثية كون الحق في المعلومة أحد حقوق الإنسان الأساسية مُتبنية في ذلك منهجًا قائمًا على الحقوق. لذا؛ فالحكومات مُلزَمة بإتاحة المعلومات للمواطنين والتوقيع على مواثيق تضمن الحق في الحصول على هذه المعلومات (RTI)؛ لتيسير إتاحتها. وقد تأخرت الدول النامية في هذا الشأن على شاكلة بوتسوانا التي لا يوجد بها ميثاق الحق في الحصول على المعلومات. وقد تم وأد جهود تصحيح ذلك الخطأ في أبريل 2012 عندما رُفضت وثيقة إتاحة المعلومات (RIA bill)، وهي خطوة رجعية أفشلت بتسوانا في اختبار الديمقراطية. إذن، يجب أن ينتصر المنطق على السياسات الحزبية؛ لتمرير هذه الوثيقة. نخرج في النهاية من البحث بثلاثة دروس عامة مُستفادة: أ. تعكس التشريعات في دول نظام الحزب الأوحد مصالح الحزب الحاكم، ب. الحاجة إلى تقوية البرلمانات في ظل نظم الحزب الأوحد لترسيخ الديمقراطية، ج. الحاجة إلى جهات فاعلة غير الدول تُشكل قوة للتأثير وحشد الدعم لعمل تشريعات تُعزز الديمقراطية مثل وثيقة الحق في الحصول على المعلومات.

المديرون من غير المكتبيين: دراسة حالة بالمكتبات الجامعية في المملكة العربية السعودية:

زهيرالدين خورشيد
العدد 39 (2013) من مجلة الإفلا المُتخصصة، رقم 3، ص.:214-220

يُعرِف هذا المقال غير المكتبيين أو من يُطلق عليهم مكتبيين بالصدفة أو المكتبيين غير الحاصلين على مؤهل في علوم المكتبات والمعلومات ويُصنف فئاتهم وفقًا لطبيعة العمل، كما يُناقش المقال ما إذا كانوا هؤلاء مؤهلين لتولي المناصب الإدارية خاصة التي تحتاج منها إلى خلفية أكاديمية قوية مثل عميد مكتبات الجامعة في المملكة العربية السعودية. يواجه عمداء المكتبات من غير المكتبيين وغير الحاصلين على مؤهلات في علوم المكتبات والمعلومات صعوبات عديدة في إدارة المكتبات أكثر بكثير من التي تتواجد في حالة إدارة مكتبي مؤهل لها. تُناقش الورقة الأساليب الإدارية لغير المكتبيين؛ لتوضيح مدى اختلافها عن نُظم الإدارة لدى عمداء المكتبات من المكتبيين المُتخصصين. يقترح البحث أيضًا أن تُعد الجامعة مجموعة من المكتبيين الجادين والمُتحمسين وتوفير منح لهم في الجامعات التي تتميز ببرامج الدكتوراه في أمريكا الشمالية وأوروبا؛ ثم استبدال جميع المكتبيين غير

يتم تنظيم الشؤون المُتعلقة باقتصاد المعلومات في تركمانستان باستخدام نموذج الشؤون الاجتماعية والتقنية والاقتصادية والسياسية والبيئية. يُمكن أن يُعطينا التحليل الذي يشمل هذه العناصر الخمس لمحة عن المُستقبل المتوقع لاقتصاد المعلومات في هذا المُجتمع. وتتركز العديد من المُلاحظات على التناقضات أكثر من نقاط التشابه منذ الحظر الرئاسي للمكتبات في يونيو 2005 (اقرأ أيضًا اقتصاد المكتبات والمعلومات في تركمانستان .Richardson, John V العدد رقم 32 (2) من مجلة الإفلا المُتخصصة 2006: 131-139).

رفع الوعي بالعلوم والتكنولوجيا والهندسة والرياضيات في المكتبات المدرسية: دراسة حالة من جاميكا:

Sasekea Harris

العدد 39 (2013) من مجلة الإفلا المُتخصصة، رقم 3، ص.:251-261

توثق هذه الورقة البحثية استراتيجيات يُمكن استخدامها لرفع الوعي بالعلوم والتكنولوجيا والهندسة والرياضيات في المكتبات المدرسية. اتبع صاحب البحث منهج دراسة الحالة لإلقاء نظرة من خلال تجربته الأكاديمية وفي المكتبات المُتخصصة. وقد كشفت الدراسة عن ست استراتيجيات يُمكن للمكتبات المدرسية تنفيذها؛ كي ترفع الوعي بالعلوم والتكنولوجيا والهندسة والرياضيات. وتستهدف هذه الاستراتيجيات المُستخدمين وغير المُستخدمين والعاملين في المكتبة. تتفرد هذه الورقة البحثية كونها أول ما يُنشر عن مُبادرات المكتبة الأكاديمية في جاميكا؛ للترويج لمبدأ الوعي بالعلوم والتكنولوجيا والرياضيات. كما تُمثل قيمة كبيرة لاحتوائها على استراتيجيات يُمكن استخدامها لرفع الوعي بهذه العلوم وتطرح فرصة لوضع المعايير كما تُنبه إلى الحاجة لمزيد من البحث في هذا المجال.

حدود البلاد. إنها مكتبة مرجعية في الأساس في الترويج ايدولوجية الآلية الديمقراطية العملية في النظام السابق، إنها تسعى للوصول بأثرها إلى بلدان أخرى.

وضع مبادئ محو الأمية المعلوماتية أساسًا للبحث التعليمي للمناهج المُشتركة في إنجلترا:

Andrew K Shenton

العدد 39 (2013) من مجلة الإفلا المُتخصصة، رقم 3، ص.:262-277

يُعد التركيز على المواد الدراسية فحسب أحد مشاكل النظام التعليمي الأساسية في المملكة المُتحدة ويؤدي إلى انفصال عمليتا التدريس وتعلّم المهارات المطلوبة. وباستخدام إطار عمل أعده المؤلف مُسبقًا يضع البحث محو الأمية المعلوماتية في مجال البحث الدراسي على نطاقه الواسع ويوظف منهجًا مُتعدد التحليل؛ لبناء نموذج مُتعدد الأوجه يوحد الكثير من المواد التعليمية المُنتشرة حاليًا في مناهج إنجلترا القومية، كما يعتمد الأمر على شمولية المحتوى المُجمع لوضع إطارًا عامًا لسلسلة من المهارات. يُمكن الهيكل المُقترح في البحث المُعلمين من خلق روابط بين الجوانب الأساسية التي يقوموا بتغطيتها في المواد التي يدرسوها والمهارات الأخرى التي يتناولها زملاؤهم المعنيون بجوانب أخرى ويُساعد أخصائيي المعلومات على معرفة الأجزاء التي يُفيد تدخلهم فيها فيما يتعلق بالترويج لمحو الأمية المعلوماتية والمهارات التي تحظى باهتمام مُباشر من القائمين على تدريس المواد الدراسية.

اقتصاد المعلومات في تركمانستان: تحديث السبع سنوات:

John V. Richardson Jr.

العدد 39 (2013) من مجلة الإفلا المُتخصصة، رقم 3، ص.:243-250

摘要

The death of the Right to Information Bill in Botswana

博茨瓦纳信息权利议案流产

Emmanuel Kopang Botlhale Kaelo Molefhe

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采用以权利为本的理念，本文认为信息权利是一项基本人权。因此，政府有义务向公民提供信息，通过签署信息权条款和法案促进信息利用。发展中国家在这方面处于落后地位，同样，博茨瓦纳也尚不具备信息权利法。为改变这一局面的努力在2012年4月被扼杀，有关信息权利法案的议案未获通过。这是倒退的一步；博茨瓦纳未能经受民主的考验。然而，理性必须克服党派政治的纷争通过该项议案。从这一案例中可以总结三项一般性的经验：一、在主导型政党体制下，立法体现了执政党的利益；二、在主导型政党体制下有必要强化议会职能以巩固民主；三、有必要发动非国家层面的因素，游说和倡导强化民主的立法工作，例如信息权利法案。

Non-librarians as managers: the case of state university libraries in Saudi Arabia

非图书馆员担任管理者：沙特阿拉伯国立大学图书馆的案例

Zahiruddin Khurshid

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本文的研究对象是非图书馆员，亦称非科班出身的图书馆员，或不具备图书馆学或情报学学位的图书馆员。依据所从事工作的性质，非图书馆员在图书馆领域承担不同类型的岗位。文章重点分析非图书馆员是否适合从事管理职位，特别是沙特阿拉伯国立大学图书馆的图书馆事务主任这样的高端学术背景的职位。在管理图书馆方面，不具备图书馆工作背景的非图书馆员出身的主任面临很多困难，无法像图书馆员出身的主任一样高效。本文还探讨了非图书馆员出身的主任的管理风格，指出了其与图书馆员出身的主任在这方面的差异。本文建议，大学的管理层应组建一支有高度事业心的图书馆员队伍，为其提供奖学金赴以高质量博士课程而闻名的北美和欧洲的图书馆学院进行学习。在他们获得博士学位后，应回国取代全部的非图书馆员，因为目前的这种任命非图书馆员从事图书馆工作的做法对图书馆产生了负面影响。

Knowledge sharing behaviour influences: a study of Information Science and Library Management faculties in Bangladesh
知识共享行为的影响：针对孟加拉国信息科学与图书馆管理教师的一项研究

Md. Anwarul Islam, Mitsuru Ikeda,
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IFLA Journal 39 (2013) No. 3, 221-234

本文研究的重点是衡量孟加拉国信息科学与图书馆管理教师的知识共享行为。可能影响知识共享行为的决定性因素构成研究的重要内容。通过编制和发放调查问卷，搜集教师的人口和学术信息、以及在共享知识方面的看法、态度、意图和内在动机等数据。为分析教师人口信息和个人特点对其态度、意图和内在动机的影响，采用了Mann-Whitney 和 Kruskal-Wallis检验法。结果表明主要研究问题不同的图情专业教师在知识共享行为方面没有显著差异。研究者发现在教师对知识共享的态度与其共享知识的意图之间存在显著相关，即0.000（P值<0.05）。相信研究结果对于负责设计灵活知识分享系统（flexible knowledge sharing system）的知识管理者而言是有帮助的。这是在孟加拉国首次对信息科学与图书馆管理教师在共享知识方面的看法、态度、意图和内在动机进行评估。作者认为本研究有助于鼓励在孟加拉国和其它国家开展类似的知识共享行为研究。

Establishment of the Election Commission Library in Nepal
在尼泊尔建立选举委员会图书馆

Ramesh Prajuli, Susan Garner
IFLA Journal 39 (2013) No. 3, 235-242

尼泊尔推动民主进程的努力，以及新宪法下可能进行的首次选举，见证了在加德满都尼泊尔选举委员会的支持下一所独特图书馆的建立。在联合国开发计划署（UNDP）、澳大利亚国际发展署（AusAID）、澳大利亚选举委员会（AEC），以及通过选举制度国际基金会（IFES）提供协助的美国国际发展署（USAID）等机构的帮助下，该图书馆已经初具规模。图书馆已将旧档案迁入新馆，制定了目前尚在熟悉阶段的各种政策，培训了员工，并积极尝试将图书馆的用户群扩展到城市以外。图书馆总体上是一所参考图书馆，但在这个曾经的君主立宪制国家倡导民主进程的理念方面，该图书馆试图在更大的范围内发挥影响力。

Establishing Information literacy principles as a foundation for cross-curricular scholarly investigation in England
英格兰地区以建立信息素养原则为基础的跨课程学术研究

Andrew K Shenton
IFLA Journal 39 (2013) No. 3, 262-277

英国教育体制的一个根本问题在于强调以科目为基础的课程体系导致相关技能教与学之间的脱节。采用作者先前制定的将信息素养纳入更广泛学术研究领域内的框架，本文采用综合集成法（meta-synthesis approach）构建元模型（meta-model），集合了目前分散在英格兰的国家课程体系中的多数资料，借助整合后课程内容的总体性，归纳出一系列通用技能。这里提出的这一框架可以使教师将自己所讲课程的核心

内容与其他课程教师同行讲授的重点知识进行关联，并可以帮助信息专业人士认识到他们的特别介入在哪些领域可以最具成效，尤其是在信息素养和与科目知识直接相关的技能方面。

The information economy of Turkmenistan: A seven-year update

土库曼斯坦的信息经济：七年来的新情况

John V. Richardson Jr.
IFLA Journal 39 (2013) No. 3, 243-250

在归纳与推进土库曼斯坦信息经济相关的问题时采用了STEPE（即social-社会、technical-技术、economic-经济、political-政治和ecological matters-生态事务）模式。透过围绕这五个因素所做的分析，能够洞察该国信息经济的未来。很多观察都围绕2005年6月总统发布有关图书馆的禁令以来的差异，而不是相似之处。（参见Richardson, John V. 著《土库曼斯坦的图书馆与信息经济》'The library and information economy of Turkmenistan.'一文，IFLA杂志2006年32卷，第2期：131-139页）

Enhancing awareness of science, technology, engineering and mathematics in school libraries: a Jamaican case study

强化学校图书馆的科学、技术、工程和数学意识：来自牙买加的案例

Sasekea Harris
IFLA Journal 39 (2013) No. 3, 251-261

本文分析了可以用来在学校图书馆强化科学、技术、工程和数学意识的策略。采用案例分析的模式，本文以作者在学术和专门图书馆担任科学图书馆员的实习经历和个人思考为基础，阐述了对这一问题的见解，提出了学校图书馆员可以用来强化科学、技术、工程和数学意识的六项策略。这些策略面向图书馆用户、非用户以及员工。本文的独到之处在于这是第一篇公开发表的介绍牙买加学术图书馆倡导科学、技术、工程和数学意识的论文。这项研究的价值在于，阐述了可以用来强化科学、技术、工程和数学意识的策略；为制定标准提供可能性；同时也指出，该领域有必要做进一步研究。

Sommaires

The death of the Right to Information Bill in Botswana

[La mort de la loi sur le droit à l'information au Botswana]

Emmanuel Kopang Botlhale Kaelo Molefhe
IFLA-Journal 39 (2013) No. 3, 204-213

En partant d'une approche fondée sur le droit, cet article affirme que le droit à l'information est un droit fondamental de la personne. Par conséquent, les gouvernements sont tenus de rendre les informations accessibles aux citoyens en signant les pactes et lois sur le droit à l'information de façon à faciliter l'accès aux informations. Les pays en développement accusent un retard à cet égard, le Botswana n'ayant ainsi aucune loi sur le droit à l'information. Les efforts pour y remédier ont été réduits à néant en avril 2012 avec le rejet de la loi sur le droit à l'information, qui a constitué un pas en arrière. De ce fait, le Botswana a échoué au test démocratique. Il faut donc que la raison triomphe des politiques partisanes pour permettre l'adoption de la loi. Enfin, il faut tirer trois leçons générales de ce cas particulier : (i) dans des systèmes à parti dominant, la législation reflète les intérêts du parti dirigeant ; (ii) il faut renforcer les parlements dans des systèmes à parti dominant afin de mettre en place la démocratie ; et (iii) il est nécessaire que les acteurs non-étatiques exercent des pressions et préconisent une législation visant à promouvoir la démocratie telle que la loi sur le droit à l'information.

Non-librarians as managers: the case of state university libraries in Saudi Arabia

[Des non-bibliothécaires aux postes de direction : le cas des bibliothèques universitaires publiques en Arabie Saoudite]

Zahiruddin Khurshid
IFLA Journal 39 (2013) No. 3, 214-220

Cet article donne une définition des non-bibliothécaires, appelés aussi bibliothécaires « par accident » ou

bibliothécaires non diplômés, identifie leurs catégories en fonction de la nature de leurs activités, et détermine s'ils sont compétents pour occuper des postes de direction, notamment le poste académique à haute responsabilité de doyen des affaires bibliothécaires au sein des bibliothèques universitaires publiques en Arabie Saoudite. Les doyens non-bibliothécaires n'ayant pas de compétences bibliothécaires sont confrontés à de nombreuses difficultés pour gérer les bibliothèques avec autant d'efficacité que ne le ferait un doyen bibliothécaire. Les styles de gestion des doyens non-bibliothécaires sont aussi examinés pour déterminer dans quelle mesure ils diffèrent de ceux des doyens bibliothécaires. L'article suggère également que l'administration universitaire forme un groupe de bibliothécaires motivés et les envoie avec des bourses d'études dans des instituts de formation bibliothécaires réputés pour leur programme de doctorat en Amérique du Nord et en Europe. Après qu'ils ont obtenu leur doctorat, il faut les faire revenir pour qu'ils remplacent tous les non-bibliothécaires, dans la mesure où la pratique actuelle consistant à nommer des non-bibliothécaires a une incidence négative sur les bibliothèques.

Knowledge sharing behaviour influences: a study of Information Science and Library Management faculties in Bangladesh

[Les influences sur le comportement de partage des connaissances : une étude du corps enseignant des Sciences de l'Information et des Bibliothèques au Bangladesh]

Md. Anwarul Islam, Mitsuru Ikeda, Md. Maidul Islam
IFLA Journal 39 (2013) No. 3, 221-234

Cette étude a pour principal objectif de mesurer le comportement en matière de partage des connaissances du corps enseignant des Sciences de l'Information et des Bibliothèques (SIB) au Bangladesh. La recherche porte essentiellement sur les facteurs essentiels susceptibles d'influencer le partage des connaissances. Un questionnaire d'enquête a été conçu et utilisé pour rassembler des données sur les informations démographiques et académiques des enseignants ainsi que sur leur perception, attitude, intention et motivation intrinsèque à partager les connaissances. Les tests de Mann-Whitney et Kruskal-Wallis ont été utilisés pour analyser les caractéristiques démographiques et individuelles des enseignants relativement à leur attitude, intention et motivation intrinsèque. Les résultats ont montré qu'il n'y avait pas de différence significative de comportement de partage des connaissances des enseignants en SIB pour les principales questions de la recherche. Les chercheurs ont constaté une relation conséquente 0.000 (valeur-p<0.05) entre l'attitude des enseignants à l'égard du partage des connaissances et leur intention de partager les connaissances. Ces constatations devraient pouvoir aider ceux chargés de gérer les connaissances à concevoir un système flexible de partage des connaissances. C'est la première fois qu'un effort est fait pour évaluer la perception, l'attitude, l'intention et la motivation intrinsèque du corps enseignant des SIB au Bangladesh à faire partager leurs connaissances. Les auteurs estiment que cette étude pourrait encourager de plus amples recherches de ce type sur le partage des connaissances au Bangladesh et ailleurs.

Establishment of the Election Commission Library in Nepal

[Création de la bibliothèque de la Commission électorale au Népal]

Ramesh Prajuli, Susan Garner
IFLA Journal 39 (2013) No. 3, 235-242

L'histoire de l'évolution de la démocratie au Népal et la probabilité de la première élection dans le cadre d'une nouvelle constitution, a vu l'inauguration d'une bibliothèque unique en son genre sous les auspices de la Commission électorale du Népal à Katmandou. Avec l'aide du Programme de développement des Nations Unies (PNUD), du programme australien AusAID, de la Commission électorale australienne et de l'USAID, aide fournie par l'intermédiaire de la Fondation internationale pour les systèmes électoraux (IFES), cette bibliothèque a été conçue de toutes pièces. Elle a centralisé de vieilles archives dans un nouveau bâtiment, mis en place des stratégies jusqu'ici inconnues, formé du personnel et elle s'emploie activement à élargir sa clientèle pour que son influence aille au-delà des limites de la ville. Il s'agit en premier lieu d'une bibliothèque de référence mais, en faisant la promotion de l'idéologie des processus démocratiques dans cette ancienne monarchie, elle vise à élargir son influence à d'autres enclaves.

Establishing Information literacy principles as a foundation for cross-curricular scholarly investigation in England

[Mise en place de principes de maîtrise de l'information comme base d'une recherche savante pluridisciplinaire en Angleterre]

Andrew K Shenton
IFLA Journal 39 (2013) No. 3, 262-277

Un problème fondamental du système éducatif au Royaume-Uni, c'est que la priorité accordée au sujet dans les programmes d'études crée une scission entre l'enseignement et l'apprentissage des aptitudes concernées. En utilisant un cadre préparé à l'avance par l'auteur, au sein duquel lequel la maîtrise de l'information est positionnée dans le cadre plus large de la recherche savante, cet article utilise une approche par méta-synthèse pour élaborer un méta-modèle rassemblant la plupart du matériel actuellement éparpillé dans les programmes d'études nationaux en Angleterre, et s'appuie sur la totalité du contenu rassemblé pour mettre en lumière une série d'aptitudes de base. La structure propose ici de permettre aux professeurs d'établir des liens entre des aspects essentiels de ce qu'ils abordent dans leurs propres disciplines et ceux traités par des collègues d'autres disciplines, et d'aider les professionnels de l'information à identifier des domaines où leurs interventions spécifiques peuvent être le plus profitables, particulièrement pour ce qui est de promouvoir la maîtrise de l'information et les aptitudes plus directement intéressantes pour les spécialistes d'un certain sujet.

The information economy of Turkmenistan: A seven-year update

[Économie de l'information au Turkménistan : une mise à jour au bout de sept ans]

John V. Richardson Jr.
IFLA Journal 39 (2013) No. 3, 243-250

Les thèmes visant à faire avancer l'économie de l'information au Turkménistan sont classifiés selon le modèle STEPE (c'est-à-dire selon des aspects d'ordre social, technique, économique, politique et écologique). Une analyse recourant à ces cinq facteurs peut donner une idée de l'avenir probable de l'économie de l'information dans ce pays. De nombreuses observations mettent l'accent sur les contrastes plutôt que sur les similitudes depuis l'interdiction des bibliothèques sur ordre présidentiel en juin 2005 (voir Richardson, John V. 'The library and information economy of Turkmenistan.' [Bibliothèque et économie de l'information au Turkménistan] IFLA Journal 32(2) 2006: 131-139).

Enhancing awareness of science, technology, engineering and mathematics in school libraries: a Jamaican case study

[Mieux faire connaître les sciences, les technologies, l'ingénierie et les mathématiques dans les bibliothèques scolaires : une étude de cas en Jamaïque]

Sasekea Harris
IFLA Journal 39 (2013) No. 3, 251-261

Cet article évoque les stratégies pouvant être utilisées pour mieux faire connaître les sciences, les technologies, l'ingénierie et les mathématiques (STIM) dans les bibliothèques scolaires. L'auteur a utilisé une approche fondée sur l'étude de cas pour se former une opinion inspirée de ses expériences de stage et ses réflexions personnelles, après avoir travaillé comme bibliothécaire scientifique dans des bibliothèques universitaires et spécialisées. Dans ce cadre, l'article propose six stratégies pouvant être mises en place par les bibliothécaires scolaires afin de mieux faire connaître les STIM. Ces stratégies s'adressent aux utilisateurs, non-utilisateurs et au personnel. Cet article a pour particularité d'être la première publication issue des initiatives d'une bibliothèque universitaire jamaïcaine visant à promouvoir le concept des STIM. La valeur de cette étude, c'est d'inclure des stratégies qui peuvent être utilisées afin de mieux faire connaître les STIM, de permettre des études comparatives et de souligner la nécessité d'effectuer de plus amples recherches dans ce domaine.

Zusammenfassungen

The death of the Right to Information Bill in Botswana

[Das Ende des Gesetzentwurfs zur Informationsfreiheit in Botswana]

Emmanuel Kopang Botlhale Kaelo Molefhe
IFLA-Journal 39 (2013) Nr. 3, 204-213

Dieser Beitrag stützt sich auf einen Menschenrechtsansatz und argumentiert, dass das Recht auf Informationsfreiheit zu den grundlegenden Menschenrechten zählt. Daher sind die Regierungen nach Ansicht des Autors verpflichtet, der Öffentlichkeit den Informationszugriff zu ermöglichen, indem sie entsprechende Informationsrechtsverträge (Right to Information (RTI) Covenants) und Informationsfreiheitsgesetze unterzeichnen, um der Öffentlichkeit den Zugang zu

den Informationen zu gewährleisten. In den Entwicklungsländern ist hier generell noch Handlungsbedarf und auch in Botswana gibt es kein Informationsfreiheitsgesetz (RTI Act). Die Bemühungen zur Änderung dieses Zustands fanden im April 2012 mit der Ablehnung des Gesetzesantrags zur Informationsfreiheit ihr Ende. Angesichts dieses Rückschritts hat Botswana somit den Demokratietest nicht bestanden. Nun muss also das logische Denken über die parteipolitischen Gefechte siegen, damit der Gesetzesantrag angenommen werden kann. Schließlich und endlich ergeben sich aus diesem Fall drei allgemeine Erkenntnisse: (i) in Einparteiensystemen richtet sich die Gesetzgebung immer an den Interessen der jeweiligen Regierungspartei aus; (ii) in Systemen mit dominanten Parteien muss zur Verankerung der Demokratie der Einfluss der Parlamente gestärkt werden; und (iii) nichtstaatliche Akteure müssen Lobbying betreiben und sich für demokratischere Rechtsvorschriften einsetzen, zum Beispiel für das Informationsfreiheitsgesetz (RTI Act).

Non-librarians as managers: the case of state university libraries in Saudi Arabia

[Nicht-Bibliothekare als Manager: Der Fall der staatlichen Universitätsbibliotheken in Saudi-Arabien]

Zahiruddin Khurshid
IFLA-Journal 39 (2013) Nr. 3, 214-220

Dieser Artikel definiert Nicht-Bibliothekare, die auch als zufällige oder als nicht offiziell anerkannte Bibliothekare bezeichnet werden, teilt sie je nach der Art ihrer Jobs in bestimmte Kategorien ein und stellt sich dabei auch die Frage, ob sie sich für Führungspositionen eignen, insbesondere für die angesehene akademische Position des Dean of Library Affairs in den staatlichen Universitätsbibliotheken Saudi-Arabiens. Deans, die keine Bibliothekare sind und somit auch keine bibliothekarischen Qualifikationen besitzen, haben erhebliche Schwierigkeiten, die Bibliotheken so effizient zu managen wie ein bibliothekarischer Dean das könnte. Zudem werden in diesem Beitrag die Managementstile der nicht-bibliothekarischen Deans besprochen, um darzulegen, wie stark sie sich von denen der Deans mit bibliothekarischem Hintergrund unterscheiden. Außerdem schlägt dieser Artikel vor, dass die Universitätsverwaltung eine Liste hoch motivierter Bibliothekare erstellen und diese dann mit Stipendien an Ausbildungsinstitute in Nordamerika und Europa schicken sollte, die für ihre guten Doktoratsstudiengänge bekannt sind. Sobald die Stipendiaten dann ihren PhD-Titel haben, sollen sie die Nicht-Bibliothekare im eigenen Land ersetzen. Dies wäre nach Ansicht des Autors insofern von Vorteil, als die heutige Praxis der Ernennung von Nichtbibliothekaren den Bibliotheken nicht unbedingt zuträglich ist.

Knowledge sharing behaviour influences: a study of Information Science and Library Management faculties in Bangladesh

[Die Einflüsse des Erfahrungsaustauschs: Eine Studie unter den Fakultäten für Informationswissenschaft und Bibliotheksverwaltung in Bangladesch]

Md. Anwarul Islam, Mitsuru Ikeda, Md. Maidul Islam
IFLA-Journal 39 (2013) Nr. 3, 221-234

Diese Studie konzentriert sich schwerpunktmäßig auf die Messung der Intensität des Informationsaustauschs in den Fakultäten für Informationswissenschaft und Bibliotheksverwaltung (ISLM) in Bangladesch. Ein wichtiger Aspekt dieses Forschungsbereichs sind die möglichen Einflussfaktoren, die das Ausmaß des Informationsaustauschs bestimmen. Um Daten bezüglich der demographischen und akademischen Kenntnisse, Sichtweisen, Einstellungen, Absichten und der intrinsischen Motivationen des Lehrkörpers bezüglich des Informationsaustauschs sammeln zu können, wurde ein entsprechender Fragebogen entwickelt. Mann-Whitney und Kruskal-Wallist-Tests sollten den Einfluss der demographischen und individuellen Charakteristika auf die Einstellungen, Absichten und die intrinsische Motivation des Lehrkörpers aufzeigen. Diese Studie mit unterschiedlichen Major Research Questions (MRQs) ergab keinen signifikanten Unterschied zwischen dem Informationsaustausch unter den LIS-Dozenten. Die Forscher fanden jedoch eine signifikante Korrelation von 0,000 (p-Wert<0,05) zwischen der Einstellung der Dozenten in Bezug auf den Informationsaustausch und ihre Absicht, eigene Kenntnisse weiterzugeben. Es wird angenommen, dass Knowledge Manager, die mit der Gestaltung flexibler Knowledge Sharing - Systeme betraut sind, diese Befunde nutzen können. In diesem Zusammenhang wurde zum ersten Mal versucht, die Sichtweisen, die Einstellungen, Absichten und die intrinsischen Motivationen der ISLM-Fakultäten in Bangladesch in Bezug auf den Informationsaustausch zu ermitteln. Die Autoren rechnen damit, dass aus dieser Studie weitere derartige Forschungsprojekte bezüglich der Neigung zum Informationsaustausch in Bangladesch sowie auch im Ausland erwachsen.

Establishment of the Election Commission Library in Nepal

[Gründung der Bibliothek des Wahlausschusses in Nepal]

Ramesh Prajuli, Susan Garner
IFLA-Journal 39 (2013) Nr. 3, 235-242

Die Entwicklungsgeschichte der Demokratie in Nepal und die Wahrscheinlichkeit einer ersten Wahl unter der neuen Verfassung ging mit der Eröffnung einer einzigartigen Bibliothek unter der Schirmherrschaft des Wahlausschusses in Nepal (Election Commission Nepal, ECN) in Kathmandu einher. Mit der Unterstützung des United Nations Development Programme (UNDP), des Australian AID (AusAID), der Australian Electoral Commission (AEC) und der USAID über die International Foundation for Electoral Systems (IFES) ist diese Bibliothek von Grund auf neu aufgebaut worden. In diesem Zusammenhang wurden die alten Archive zentral in einem neuen Gebäude gesammelt, ganz neue Verfahrensweisen entwickelt, die Mitarbeiter geschult und man bemüht sich nun aktiv darum, auch Besucher über die Stadtgrenzen hinaus anzuziehen. Primär handelt es sich dabei um eine Präsenzbibliothek, die jedoch im Kontext der Verbreitung demokratischer Prozesse in dieser vormaligen Monarchie auch versucht, ihren Einfluss geographisch weiter auszudehnen.

Establishing Information literacy principles as a foundation for cross-curricular scholarly investigation in England

[Etablierung der Prinzipien der Informationskompetenz als Grundlage für die lehrplanübergreifende wissenschaftliche Auseinandersetzung in England]

Andrew K. Shenton
IFLA-Journal 39 (2013) Nr. 3, 262-277

Ein grundlegendes Problem mit dem Bildungswesen in Großbritannien liegt darin, dass die themenzentrierte Orientierung des Curriculums eine Trennung der Unterrichtsfächer und des Lernens der damit verbundenen Kompetenzen zur Folge hat. Auf Basis eines vorab vom Autor erstellten Rahmenkonzepts, das die Informationskompetenz in den größeren Kontext der wissenschaftlichen Auseinandersetzung einbettet, stützt sich dieser Beitrag auf ein metasynthetisches Verfahren zur Erstellung eines Meta-Modells, das einen Großteil des Materials erfasst, das zurzeit über den zentralen Lehrplan Englands verstreut ist. Dabei listet er anhand der Gesamtheit des Inhalts eine Reihe allgemeiner Kenntnisse und Fertigkeiten auf. Die hier vorgeschlagene Struktur ermöglicht es dem Lehrkörper, Verbindungen zwischen den Schlüsselelementen dessen, was sie in ihren eigenen Fachbereichen abdekken, und denjenigen der Kollegen zu ziehen, die mit anderen Lehrfächern zu tun haben. Zudem hilft es den Information Professionals dabei, die Bereiche zu erkennen, in denen ihre spezielle Intervention den größten Nutzen hat, indem sie die Informationskompetenz sowie die Fähigkeiten, die für die entsprechenden Fachleute eher von unmittelbarem Interesse sind, spezifisch fördert.

The information economy of Turkmenistan: A seven-year update

[Die Informationswirtschaft in Turkmenistan: Ein siebenjähriges Update]

John V. Richardson Jr.
IFLA-Journal 39 (2013) Nr. 3, 243-250

Die Themen im Zusammenhang mit der Entwicklung der Informationswirtschaft in Turkmenistan werden nach dem STEPE-Modell organisiert (das soziale, technische, wirtschaftliche, politische und ökologische Aspekte beinhaltet). Eine Analyse auf Basis dieser fünf Faktoren kann einen Einblick in die voraussichtliche Zukunft der Informationswirtschaft in diesem Land bieten. Seit der Bibliotheksschließung durch den Präsidenten im Juni 2005 konzentrieren sich viele Beobachtungen auf Gegensätze anstelle von Ähnlichkeiten (siehe Richardson, John V.: „The library and information economy of Turkmenistan." IFLA-Journal 32(2) 2006: S. 131-139).

Enhancing awareness of science, technology, engineering and mathematics in school libraries: a Jamaican case study

[Förderung des Verständnisses für die Wissenschaft, Technologie, Ingenieurwissenschaft und Mathematik in Schulbibliotheken: eine Fallstudie aus Jamaika]

Sasekea Harris
IFLA-Journal 39 (2013) Nr. 3, 251-261

Dieser Artikel beschreibt mögliche Strategien für Schulbibliotheken zur Verbesserung des Verständnisses für die Wissenschaft, Technologie, Ingenieurwissenschaft und Mathematik (STEM). Anhand einer Fallstudienmethode wurden Erkenntnisse aus der Fellowship-Erfahrung des Autors gesammelt; hinzu kommen persönliche Überlegungen, die sich aus seiner Tätigkeit als wissenschaftlicher

Bibliothekar in wissenschaftlichen Bibliotheken und an speziellen Bibliotheksschauplätzen ergeben. In diesem Zusammenhang wurden sechs Strategien beschrieben, die Schulbibliothekare nutzen können, um das Verständnis für STEM zu verbessern. Diese Strategien zielen auf die Nutzer, Nichtnutzer und Mitarbeiter ab. Der vorliegende Artikel ist außergewöhnlich, da es sich um die erste Publikation handelt, die sich mit den Initiativen einer wissenschaftlichen Bibliothek in Jamaika zur Förderung des STEM-Konzepts befasst. Diese Studie ist insofern wertvoll, als sie Strategien zur Verbesserung des STEM-Verständnisses enthält, das Benchmarking ermöglicht und den Bedarf für weitere Forschungsprojekte in diesem Bereich unterstreicht.

Рефераты статей

Гибель проекта Акта о праве на информацию в Ботсване

Эммануэль Копанг Ботлхейл Каэло Молефхе
IFLA-Journal 39 (2013) № 3, 204-213

На основании положений о правах человека в настоящей работе утверждается, что право на информацию является одним из основополагающих прав человека. Следовательно, правительства обязаны обеспечивать своим гражданам доступ к информации, для чего необходимо подписание законодательных актов о праве на информацию, гарантирующих доступность информации. В данном отношении развивающиеся страны движутся с существенным отставанием, и в Ботсване также нет Акта о праве на информацию. Усилия, направленные на исправление ситуации, были перечеркнуты в апреле 2012 года, когда был отклонен Акт о праве на информацию. Это стало шагом назад, и, сделав его, Ботсвана провалила тест на демократию. Однако разум должен восторжествовать над партизанской политикой для того, чтобы законопроект был принят. В конечном итоге, данный случай указал на три важнейших фактора, которые необходимо учитывать: (I) в политических системах, основанных на преимущественной роли какой-либо партии, законодательство отражает интересы правящей партии; (II) для укрепления демократии в странах с правящей партией необходимо усиление роли парламента; (III) для продвижения и защиты актов законодательства, способствующих развитию демократии, таких, как Акт о праве на информацию, необходимо участие фигур, не являющихся представителями государственной власти.

Библиотекари без специального образования в роли менеджеров: на примере библиотек государственного университета в Саудовской Аравии

Захируддин Хуршид
IFLA Journal 39 (2013) № 3, 214-220

В настоящей статье дается определение непрофессиональным библиотекарям, называемым также случайными библиотекарями или библиотекарями без диплома, приводится их разделение на категории в зависимости от специфики профессии, а также проводится анализ их способности занимать руководящие должности, в частности такую высокую академическую должность, как Декан по вопросам библиотек в библиотеках государственного университета в Саудовской Аравии. Для того чтобы руководить работой библиотеки также эффективно, как это делают деканы со специальным образованием в области библиотечного дела, библиотекари без диплома должны преодолевать большое количество трудностей. Также в статье рассматриваются методы управления, которым пользуются библиотекари без диплома, и показывается, насколько они отличаются от методов, используемых деканами с образованием в области библиотечного дела. В настоящей работе предлагается администрации университета подготовить группу библиотекарей, имеющих высокую мотивацию, и отправить ее для обучения в учебные заведения по подготовке специалистов библиотечного дела в Северной Америке и Европе, известные своими программами для аспирантов. После получения степени кандидата наук участники группы должны вернуться и заменить всех библиотекарей без диплома, поскольку текущая практика назначения на руководящие должности работников без соответствующего образования в области библиотечного дела оказывает негативное действие.

Влияние моделей поведения при передаче знаний: исследование факультетов науки об информации и библиотековедения в Бангладеш

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IFLA Journal 39 (2013) № 3, 221-234

Основное внимание данного исследования направлено на определение моделей поведения

при передаче знаний на факультетах науки об информации и библиотековедения (ISLM) в Бангладеш. Определение факторов, которые могут оказывать влияние на указанные модели поведения, составляет существенную часть исследования. Был разработан и использован опросный лист, на основании которого осуществлялся сбор информации о демографической и академической ситуации на факультетах, о восприятии, отношении, намерении и внутренней мотивации поделиться знаниями. Для того чтобы проанализировать влияние демографических и индивидуальных характеристик факультетов на их отношение, намерение и внутреннюю мотивацию, были выполнены тесты Манна-Уитни и Крускала-Уоллиса. Результаты показали отсутствие существенного различия между моделями поведения преподавателей библиотековедения и науки об информации с различными главными вопросами исследования. Исследователи обнаружили существенную взаимосвязь 0,000 (величина $p < 0,05$) между отношением педагогов к передаче знаний и их намерением делиться знаниями. Считается, что полученные результаты помогут работникам, в задачи которых входит разработка гибкой системы передачи знаний. Настоящая работа является первой попыткой провести оценку восприятия, отношения, намерения и внутренней мотивации к передаче знаний на факультетах науки об информации и библиотековедения в Бангладеш. Авторы надеются, что она может послужить стимулом для проведения подобных исследований моделей поведения при передаче знаний в Бангладеш и в дальнейшем.

Учреждение Библиотеки избирательной комиссии в Непале

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IFLA Journal 39 (2013) № 3, 235-242

История развития демократии в Непале и возможность проведения первых выборов в соответствии с новой конституцией были отражены в торжественном открытии уникальный библиотеки под эгидой Избирательной комиссии Непала (ECN) в Катманду. При помощи Программы развития ООН (UNDP), Австралийского агентства по международному развитию (AusAID), Австралийской избирательной комиссии (AEC) и USAID и при участии Международной организации избирательных систем (IFES) эта библиотека развивается с самого момента своего основания. Ее старые архивы были собраны в новом здании, ей были разработаны ранее не использовавшиеся методы, подготовлен персонал, и она активно работает над расширением круга своих клиентов за пределами границ города. Она функционирует преимущественно как справочная библиотека, однако пропагандируя идеологию демократизации в этой до недавнего времени монархической стране, она работает над расширением своего влияния во внешних анклавах.

Установление принципов информационной грамотности как основа межпредметного исследования обучения в Англии

Эндрю К Шентон
IFLA Journal 39 (2013) № 3, 262-277

Существенной проблемой системы образования в Соединенном Королевстве является то, что предметная специализация в рамках учебной программы приводит к разделению между преподаванием и изучением соответствующих дисциплин. С использованием структуры, разработанной автором ранее, в рамках которой информационная грамотность располагается в пределах более широкой сферы исследования системы обучения, в данной работе применяется мета-синтез для построения мета-модели, которая объединяет большую часть материала, который в настоящее время рассеян по Национальной учебной программе Англии, и которая, основываясь на итоговом сборном содержании, очерчивает набор общих навыков. Структура, предлагаемая в настоящей работе, позволяет преподавателям устанавливать связь между ключевыми аспектами предметов, которые они преподают сами, и аспектами, раскрываемыми их коллегами в рамках других дисциплин, а также позволяет профессионалам, работающим в области науки об информации, определять те сферы, где их непосредственное вмешательство принесет наибольшую пользу в плане распространения информационной грамотности как таковой, а также более конкретных навыков среди тех, кто изучает соответствующий предмет.

Информационная экономика Туркменистана: обновление за семь лет

Джон В. Ричардсон Мл.
IFLA Journal 39 (2013) № 3, 243-250

Вопросы, относящиеся к прогрессу информационной экономики в Туркменистане, расположены в соответствии с моделью STEPE (т.е. социальные, технические, экономические, политические и экологические вопросы). Анализ с использованием

указанных пяти факторов может дать понимание наиболее вероятного сценария будущего информационной экономики страны. Многие наблюдения обращают наше внимание скорее на контрасты, чем на сходства, имевшие место с момента Президентского запрета на библиотеки в июне 2005 года (см. Ричардсон, Джон В «Библиотечная и информационная экономика Туркменистана», IFLA Journal 32(2) 2006: 131-139).

Расширение осведомленности в области науки, технологии, проектирования и математики в школьных библиотеках: изучение примера Ямайки

Сасекеа Харрис
IFLA Journal 39 (2013) № 3, 251-261

В настоящей работе изложены стратегии, которые можно применить для расширения осведомленности в области Науки, Технологии, Проектирования и Математики (STEM) в школьных библиотеках. В рамках данной работы использовался метод разбора конкретного случая, чтобы показать понимание автором предмета исследования на основании своего собственного опыта, а также личных размышлений времен работы в качестве специалиста по научной литературе в учебных и специализированных библиотечных учреждениях. В работе изложены 6 стратегий, которые могут быть использованы сотрудниками школьных библиотек для расширения осведомленности в области STEM. Эти стратегии касаются пользователей библиотек, тех, кто библиотеки не посещает, а также сотрудников библиотек. Уникальность данной работы заключается в том, что она представляет собой первую публикацию, касающуюся инициативы учебной библиотеки Ямайки в продвижении концепции STEM. Значимость настоящей работы заключается также и в том, что описанные в ней стратегии могут быть использованы для расширения осведомленности в области STEM; она позволяет проводить сопоставления, а также указывает на необходимость проведения дальнейших исследований в данной области.

Resúmenes

The death of the Right to Information Bill in Botswana

[La muerte del proyecto de ley para el derecho a información en Botsuana]

Emmanuel Kopang Botlhale Kaelo Molefhe
IFLA Journal, 39 (2013) No. 3, 204–213.

Adoptando una actitud basada en los derechos, este proyecto argumenta que el derecho a la información es un derecho humano fundamental. Por consiguiente, los gobiernos están obligados a poner la información a disposición de los ciudadanos firmando los pactos y legislación de Derecho a la Información (RTI) para facilitar la disponibilidad de dicha información. El desarrollo mundial va a la zaga en este aspecto y, de forma similar, Botsuana no tiene una legislación RTI. Los intentos para contrarrestarlo fueron aniquilados en abril de 2012 cuando el proyecto de ley RIA fue rechazado, cosa que fue un paso atrás; así que Botsuana suspendió su examen de democracia. Por esta razón, es necesario que estos argumentos venzan a las políticas partidistas en la aprobación del proyecto de ley. Finalmente, tres ideas generales son las que emergen de esta cuestión: (i) en sistemas de partidos dominantes, la legislación refleja los intereses del partido gobernante; (ii) la necesidad de fortalecer los parlamentos en sistemas de partidos dominantes para atrincherar la democracia; y (iii) la necesidad de agentes no estatales para que ejerzan presión y defiendan la democracia, promoviendo la legislación de leyes como la RTI.

Non-librarians as managers: the case of state university libraries in Saudi Arabia

[Los “no-bibliotecarios” como directores: el caso de las bibliotecas universitarias estatales en Arabia Saudí]

Zahiruddin Khurshid
IFLA Journal 39 (2013) No. 3, 214-220

Este artículo define a los “no-bibliotecarios”, también llamados bibliotecarios fortuitos, o bibliotecarios no titulados; identifica sus categorías de acuerdo con la naturaleza de sus trabajos y si son apropiados para posiciones gerenciales, en particular el alto perfil de la posición académica del Decano de Asuntos Bibliotecarios en bibliotecas de universidades estatales en Arabia Saudí. Los decanos “no-bibliotecarios” sin tener una credencial bibliotecaria, se enfrentan a muchas dificultades al gestionar bibliotecas de forma tan eficiente como lo haría un Decano bibliotecario. Los estilos de dirección de los decanos “no-bibliotecarios” también

son puestos a examen para poner de manifiesto cuánto se diferencian de los decanos titulados. El proyecto también sugiere que la administración universitaria debería preparar a un grupo de bibliotecarios altamente motivados y enviarlos con becas a bibliotecas de escuela famosas por sus programas doctorales en Norteamérica y Europa. Una vez que obtengan sus doctorados volverían y se remplazarían por los "no-bibliotecarios", ya que la práctica actual de nombramiento está afectando a las bibliotecas de forma negativa.

Knowledge sharing behaviour influences: a study of Information Science and Library Management faculties in Bangladesh

[Influencias de la conducta de compartir conocimiento: un estudio de las Ciencias de la Información y Facultades de Gestión de Bibliotecas en Bangladesh]

Md. Anwarul Islam, Mitsuru Ikeda, Md. Maidul Islam
IFLA Journal 39 (2013) No. 3, 221-234

El objetivo esencial de este estudio es medir la conducta de compartir conocimiento de las Ciencias de la Información y la Gestión de Bibliotecas (ISLM) en Bangladesh. Determinar los factores que pueden influenciar en la conducta de compartir conocimiento constituye una importante área de investigación. Se desarrolló un cuestionario y se utilizó para recoger datos de información demográfica y académica, percepción, actitud, intención y motivación intrínseca para compartir conocimiento. Para analizar la influencia de las características demográficas e individuales sobre su actitud, intención y motivación intrínseca, se llevaron a cabo los tests de Mann-Whitney y Kruskal-Wallis. Los resultados mostraron que no se halla diferencia significante alguna entre la conducta de compartir conocimiento de los educadores LIS con respecto a preguntas de investigación principales (MRQs). Los investigadores encontraron una relación significante 0.000 (p-valor<0,05) entre la actitud de los educadores hacia compartir conocimiento y su intención de compartir conocimiento. Se cree que los descubrimientos ayudarán a los gestores de conocimiento encargados de diseñar un sistema flexible para compartir conocimiento. Este es la primera vez que se ha hecho un esfuerzo en evaluar las facultades de percepción, actitud, intención y motivación intrínseca para compartir conocimiento de las facultades ISLM en Bangladesh. Los autores sienten que este estudio puede estimular más investigaciones similares en la conducta de compartir conocimiento en Bangladesh y otros lugares.

Establishment of the Election Commission Library in Nepal

[Creación de la Comisión de Bibliotecas para las Elecciones en Nepal]

Ramesh Prajuli, Susan Garner
IFLA Journal 39 (2013) No. 3, 235-242

La historia del desarrollo de la democracia en Nepal y la probabilidad de unas primeras elecciones bajo una nueva constitución, ha sido testigo de la inauguración de la única biblioteca con el auspicio de la Comisión Electoral de Nepal (ECN) en Kathmandu. Con la ayuda del Programa de Desarrollo de las Naciones Unidas (UNDP), Auxilio Australiano (AusAID), la Comisión Electoral Australiana (AEC) y USAID a través de la Fundación Internacional de Sistemas Electorales (IFES), esta biblioteca se ha desarrollado desde sus cimientos. Ha centralizado archivos antiguos en un nuevo edificio, desarrollado políticas hasta la fecha desconocidas, capacitado a trabajadores y está intentando ampliar su clientela más allá de los límites de la ciudad. Es ante todo una biblioteca de referencia, excepto en promover la ideología de procesos democráticos en la monarquía anterior, que busca expandir su influencia en enclaves más lejanos.

Establishing Information literacy principles as a foundation for cross-curricular scholarly investigation in England

[Establecer principios de alfabetización informacional como un fundamento para la investigación escolar curricular en Inglaterra]

Andrew K Shenton
IFLA Journal 39 (2013) No. 3, 262-277

Un problema fundamental en el sistema de educación del Reino Unido es que el énfasis basado en el sujeto del currículo desencadena en una separación entre la enseñanza y el aprendizaje de habilidades relacionadas. Usando un marco preparado previamente por el autor, que posiciona la Alfabetización Informacional en el campo más amplio de la investigación escolar, este estudio emplea un acercamiento metasintético para construir un modelo meta que unifica muchos de los materiales actualmente divulgados a través del Currículo Nacional de Inglaterra, y hace uso de la totalidad del contenido reunido para resumir una serie de habilidades genéricas. La estructura planteada en el presente estudio permite a los profesores establecer conexiones entre los aspectos clave de lo que van a tratar en sus propias asignaturas y aquellas abordadas

por sus colegas en otras disciplinas, y ayudará a los profesionales de la información a reconocer áreas donde sus intervenciones concretas serán más provechosas, en cuanto a la promoción de la Alfabetización Informacional de forma específica y a las habilidades de interés más directo con los profesionales en materia.

The information economy of Turkmenistan: A seven-year update

[La economía de la información de Turkmenistán Una modernización de siete años]

John V. Richardson Jr.
IFLA Journal 39 (2013) No. 3, 243-250

Los asuntos relacionados con el avance de la economía de la información en Turkmenistán se han organizado usando el modelo STEPE (cuestiones sociales, técnicas, económicas, políticas y ecológicas). Un análisis, usando estos cinco factores, puede dar una idea del posible futuro de la economía de la información en este país. Muchas de las observaciones se centran en los contrastes en vez de en las similitudes desde la prohibición de la Biblioteca Presidencial de junio de 2005 (ver Richardson, John V. "The library and information economy of Turkmenistan" ("La economía de la biblioteca e información en Turkmenistán"). IFLA Journal 32(2) 2006: 131-139).

Enhancing awareness of science, technology, engineering and mathematics in school libraries: a Jamaican case study

[Aumentar la conciencia de la ciencia, tecnología, ingeniería y matemáticas en bibliotecas escolares: un estudio de caso jamaicano]

Sasekea Harris
IFLA Journal 39 (2013) No. 3, 251-261

Este estudio recoge las estrategias que se pueden usar para aumentar la conciencia en bibliotecas escolares de la Ciencia, Tecnología, Ingeniería y Matemáticas (STEM). Un acercamiento de estudio de caso se usó para proporcionar conocimiento de la experiencia y reflexiones personales del autor tras haber trabajado como bibliotecario científico en un entorno académico y bibliotecario especial. En este sentido, se descubrieron seis estrategias que los bibliotecarios escolares pueden implementar para aumentar la concienciación de STEM. Estas estrategias van dirigidas a usuarios, no usuarios y personal. Este estudio es único, ya que es la primera publicación de las iniciativas de una biblioteca académica en Jamaica en promocionar el concepto STEM. El proyecto tiene mucho valor por incluir estrategias que pueden usarse como potenciadoras de la conciencia de STEM; permite la evaluación por comparación; y está orientado a la necesidad de una mayor investigación en dicha área.