Information Literacy Programs through Faculty-Librarian Collaboration : Meeting the Challenges of an Emerging Knowledge Society

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Abstract

Information literacy is one of the vital ingredients of a knowledge society. Borrowing from structuration theory, institutional theory, and theory of situated learning, this paper establishes the need for developing information literacy programmes that are to be integrated in the class room learning, as a compulsory activity. Such programs need strong faculty-librarian collaboration. This collaboration, however, is not without its challenges. This paper intends to begin a dialog among academic policy makers, faculty, and librarians on such programmes and the form of collaboration that can successfully support such initiatives.

Introduction

The point of departure of this paper is the concept of knowledge society as envisaged by National Knowledge Commission (NKC) of India in their reports (2005, 2007). The Commission, in these reports, has prescribed various measures to successfully transform India to a knowledge society. The recommendations of the Commission bring a spectacular scope for Indian librarians to take up a new role which requires new alliances. The primary aim of this conceptual paper is to initiate a dialog among all stakeholders in the country – policy makers, academics, and of course librarians – on this new role and faculty-librarian collaboration as a new alliance to support the new role.

Knowledge society and information literacy

Ability to use and create knowledge as capital and equitable access to knowledge across all sections has been envisaged by the Commission as the mark of a knowledge society. These targeted outcomes have been expressed in terms of five key areas, namely, access to knowledge, knowledge concepts, knowledge creation, knowledge application and development of better knowledge services. Two major inputs, in order to achieve these outcomes as proposed are: increased number of educational opportunities and improved library infrastructure. The importance of the social function of librarians and libraries in such a society has been underscored and libraries form a significant component in various institutional frameworks, as proposed by the commission (2007).

The recommendations of NKC for institutional framework development are the embodiment of several assumptions, which need to be unpacked and translated into actions in order to meet the objectives of those recommendations. This unpacking is required because several of the key outcomes, for example, knowledge creation and knowledge application are not directly achievable with greater numbers of institutions or opportunities. People also need to know how to use the institutions, information, and opportunities available to them. Various studies have shown that information can be available, but inaccessible in terms of meaningful use. For example a report from the United Kingdom's office for National Statistics in 1997 showed that 20% of British adults could not follow train timetables or understand what they read in newspapers (Bawden, 2001). Making more newspapers available to these people would not help them, teaching them to make connection between the news read and their everyday world would. Similarly, it is not enough that an Indian individual has access to all information resources related to a certain health-related issue – s/he must be able to make an informed decision on such issue. Developing of such capabilities requires some processes; mere access to knowledge resources can at best facilitate a situation in which such process can take place. Both resources and processes are required to develop knowledge society, though the mention of such process remains very implicit in the recommendations of NKC.

Making people information literate can be that process. Information literacy is considered crucial, in the twenty-first Century, to faculty, librarians, and academic administrators in order to develop appropriate information behavior in terms of knowledge of finding information from the current plethora of information, evaluating, integrating, and conveying the same (Rockman, 2003). In a resource-based education, which is implied by the recommendations of the Commission, students have to learn the skills for retrieval, evaluation, and use of the growing information and knowledge. Academic institutions have the responsibility to prepare students for an information oriented society in which the ability to navigate, retrieve, and use of information effectively is central to educational, professional, and civic success (Owusu-Ansah, 2004). The need of owning information literacy by all educators is particularly important when mass of a society and not elites alone participate in the education system (Ward & Hockey, 2007). Starting from academic programs, the knowledge of information literacy should transcend the same and be transferable to the workplaces and across the lifespan.

The Commission, in its report, has placed information literacy as an optional and paid service to be offered by libraries. But this author argues that information literacy must be taken out from a reductionist view and be placed in a larger frame of a process that can transform a society. This paper offers four propositions: information literacy programmes are essential to help the emergence of a knowledge society; incorporating such programmes in regular academic curriculum is the most effective way to inculcate information literacy; such programmes should be holistic and contextual; and faculty-librarian collaboration – a model hitherto unknown in our country can be the best way to impart such training. The following sections include: the scope of information literacy programs in the present context, the theoretical underpinnings of the propositions, how faculty-librarian collaboration can help in this context; and challenges to such collaboration.

Information Literacy – Its Scope

The nature, content, and the structure of information literacy and its related programs have been extensively debated in the literature (Bawden, 2001; Snavely & Cooper, 1997,Virkus, 2003, Doyle, 1992 and, Radar 1991). Notwithstanding such extensive discussions on the term as well as the concept, there is some kind of tacit agreement on what information literate person should be like. At the same time, the thrust of many information literacy programs is on skill development in the area of bibliographic instructions. Information literate person, however "is one who experiences information literacy in a range of ways, and is able to determine the nature of experience it is necessary to draw upon in new situations" (Weber & Johnston, 2000). From this perspective, this section highlights some of the inadequacies of the scope and structure of information literacy programs that we see in most places.

Mostly, information literacy programs are reduced to providing bibliographic instructions and are focused on developing skills for searching information using electronic resources. The thrust on mechanistic skill development in searching for information than on use, in lower classes, results in fewer students in upper school years demonstrating understanding on how to evaluate and interpret information (Williams & Wavell 2007; Owusu-Ansah, 2004). The result may be a learning a few tactics at the most superficial level which enable the learner to negotiate some specific information sources. They do not become capable of engaging in a fast-changing information society. In order to align the process of information literacy with that of developing a knowledge society, students should undergo a process which will empower them to make meaning of information which is a cognitive process, make sense of information from different sources and formats; and foster links between new information and existing knowledge of the topic under consideration.

Structure wise too, the prevailing practice of offering bibliographic instructions, by librarians or database vendors, as information literacy programs has several limitations. *First*, librarians' sphere of influence may be limited in comparison with that of academic staff and thus information literacy itself may be marginalized and trivialized, both by faculty and by students (Weber & Johnston, 2000). *Second*, such optional programs leave some students out and may engage some other students repetitively. Owusu-Ansah (2004) suggested that any far reaching solution has to be comprehensive and diversified. An integrated programmatic arrangement avoiding the haphazard distribution of courses and engaging the entire student population during their college attendance can ensure such comprehensiveness.

All these discussions favour to construe that institutionalized, contextualized, credit-bearing courses in information literacy is a better solution. Content wise the programe should start with bibliographic instruction but at the same time, it should also span to cover evaluating and using information effectively.

Theoretical Framework

A framework based on structuration theory, institutional theory, and situated learning has been used in support of the propositions made in this paper. Theoretical perspectives of each of the propositions are discussed here.

Information Literacy Programs – A Structuration Theory Perspective

Resources, rules, and mental schema make up a structure. Structuration theory (Giddens, 2008; Sewell, 1992) asserts that it is the mental frame or cognitive

schema, also referred to as the interpretive schema (Orlikowski, 2000) of individuals that contribute to the maintenance as well as change of the structure of a society within which those individuals are situated. Rules are important to the use resources but the mental frame is equally important as it helps applying such rules under varied conditions, such as identifying and using resources. This can be likened to producing a speech act using language. People of a culture must know the rules of using language – a resource – and have a mental frame to recognize that resource and use it differently in different situations. That is how language becomes a resource to communicate within the society. This shared knowledge within a community is culture and a resource is an effect of a cultural schema. Giddens (2008) in his structuration theory and Sewell (1992) in his further explication of the theory, posited that people in a certain culture have certain schemas or mental frames which are used by them to recognize the resources at hand in a certain way and then the way the same can be used.

That resource is the effect of cultural schema has also been stressed by Orlikowski (2000). While discussing technologies-in-practice – a concept based on structuration theory – she showed that mere presence of any resource within the reach of prospective users is not sufficient for the appropriate use of such resources. Many software and ICT products, purchased by organizations remain unused. Even when people use such a technology – for example a word processor – people hardly use all the features of the software. The use of such technologies is strongly influenced by 'power actors' such as trainers, managers, or champions. These 'power' actors intervene in the interpretation or reading of the technology by the users through their comments on the technology's nature, capacity, use, and value and training plays an important role in this context.

This theoretical perspective is important to underscore that the mere presence of abundant information resources is not sufficient for today's students to learn how to draw on such resources effectively to live in knowledge society. Inculcating a schema among individuals so that they can identify resources and use the same in every new situation in their lives is a prerequisite. Further, drawing from Orlikowski (2000), it can be construed that training/academic programs through the trainer/teacher and similar 'power' actors can intervene with the interpretive schema of today's students who, in turn, can develop an understanding and the use of knowledge. A programme on information literacy, rather than isolated skill development training can contribute in this regard and hence is the justification of the first proposition.

Behavior in Knowledge Society – An Institutional Theory Perspective

Training, however, can take different forms. For example, a new entrant to a society undergoes informal training by observing others and mimicking

the same. As knowledge society is yet to gain ground, there is nothing to observe for the new entrants in this society. In order to hasten the process of formation of that society, a good strategy is required to institutionalize the appropriate information behavior. Scott (2008) explains that the process of institutionalization within an organization can occur through one or more of the three pillars – regulative, normative, and cultural – cognitive pillars and through four types of carriers – symbolic systems, relational systems, routines, and artifacts. The regulative pillar is likely to be more visible through carriers like rules and laws (symbolic systems); governance systems, power systems (relational systems); protocols, standards, procedures (routines); and objects complying with mandated specifications (artifacts). A compulsory academic program on information literacy, recommended by academic policy makers at the government level and implemented through laws – thus displaying support of power – adopted by academic organizations as compliance, and designed through standard course works with set targets on meeting such standards is more visible by a larger part of the society than optional information literacy programs of different standards and contents at the individual library's level. Coercion requires a clear demand, surveillance, and reward or sanctions to those who do or do not comply. Compulsory information literacy training through academic programs at undergraduate and graduate levels can help institutionalizing behaviors expected in a knowledge society and hence justifies the second proposition.

Information Literacy Programs – A Situated Learning Perspective

Structuration theory emphasizes on training and institutional theory favours a regular academic program on information literacy. But these theories do not say how, where, and by whom such training should be imparted. The theory of situated learning fills this gap. The premise of situated learning is that a contextual learning of information literacy is more effective than de-contextual learning and the scope of information literacy as proposed in this paper can go hand-by-hand with situated or contextual learning.

That learning and knowledge cannot be separated from context has been argued by many scholars. Knowledge cannot be treated as separate, neutral, and independent of the situation. Learning and cognition are situated and take shape through activities. (Brown, Collins and Duguid, 1989). Miller and Gildea (1987, quoted in Brown, Collins, & Duguid) in their study on vocabulary teaching, found that older teens when exposed to words through communications in their daily lives such as reading, listening and speaking, learn 50 times more words than if they are taught words through abstract definitions through which they may acquire many words which are in effect useless. Brown, Collins, and Duguid (1987) likened any knowledge to language

learning and asserted that knowledge is a product of situation and activity. A piece of knowledge, learned through an activity within a situation evolves in meaning every time the learner faces a new situation, negotiates with the new situation in order to use that knowledge. Thus all concepts, even abstract technical concepts inherit some meaning from the context of its use. Interestingly, a machine is required to understand a manual, as much as the manual to understand the machine (Brown, Collins, Duguid, 1989). This underscores that the situation is as important to learn a concept as the learning itself.

In the same spirit, Tuominen, Savolainen, and Talja (2005) challenged the notion that information literacy as a set of attributes can be taught, evaluated and measured in isolation of tasks and contexts in which such attributes are used. They underscore the need to understand the interplay between knowledge formation, workplace learning and information technologies in order to make any information literacy initiative successful. Borrowing from situated learning and learning requirements, they assert that a complex system of social relationships and work organization play an important role and practical domains and tasks must be accounted for in teaching information literacy.

A question that ensues that if people or students are taught information literacy within a specific context, in their classroom environment, will they be able to transfer that ability to lifelong learning? After all what becomes knowledge/information can vary over time and across situations. Besides, the same information/ knowledge can be used differently, as resource, at different points of time. How it is possible for a knowledge society to progress and flourish if information literacy programs are contextualized, is a pertinent question.

Almost a similar question was raised by scholars of structuration theory. If people produce the same structure through their actions, then how is the change or progress possible. Structuration theory recognizes the importance of knowledgeable individuals and Sewell (1992) explains the same by highlighting that cultural schemas, though initially developed within a

situation, can be generalized or are transposable. Schemas acquired in a situation can be applied to a wide and not fully predictable range of cases outside the context in which those are initially learned. Similar logic can be used in situated learning of information literacy. As people are taught, under specific cases, how to find, evaluate, and use information, their mental frame is formed in this regard and it can be extended or transposed to different situations, in their future lives, which are unpredictable at any point of time and thus fostering lifelong learning and these are the merits of the third proposition.

Faculty-librarian collaboration – need, models and practices

Needs: In sum, to be meaningful and effective, training/ academic programs on information literacy should be embedded in the regular classroom activities in academic institutions such as schools, colleges, and universities. Examples of classroom activities within which information literacy can be embedded are doing research, writing essays, working on projects and similar other activities. Both teachers and librarians become essential components in such programs. Teachers are directly involved with setting the activities and tasks in which learners apply information to develop their knowledge; librarians are for providing guidance for accessing and evaluating information. This model necessitates collaboration between faculty/ teachers and librarians (Williams & Wavell 2007).

Models: Different models have been proposed to implement faculty-librarian collaboration for information literacy programs. Lindstorm and Shonrock (2006) suggested three different models for such collaborative programs:

- information literacy programs integrated into specific courses;
- deploying learning communities to develop collaboration and integrated instruction; and
- campus-wide information literacy programs.

Brasley (2008) identified several models of collaboration, as summarized in Table 1.

Table 1: Characteristics of Information Literacy Programs (Brassley, 2008)

Model	Characteristics
Introduction model	one- or two-session presentation of generic IL competencies
Generic education model	IL outcomes are integrated into general education goals
Learning outcome model	departmental disciplinary IL learning outcomes are decided by faculty and librarian
Information literacy course model	a few credit courses on information literacy – collaboration comes in the form of faculty and administrative support for resources and course approval
Faculty focus model	onus for information literacy development on the teacher – collaboration in the form of faculty-librarian training

Practices: A few examples of such collaboration, from the literature are summarized here. Queensland University of Technology has developed an outcome-based curriculum on information literacy. A two-pronged approach, involving learning and immediate application, has been adopted in the program. On one hand, there are a number of workshops ranging from generic online information tutorials to subject and assignment specific workshops which are developed with the help of subject coordinators and study advisors.

On the other hand, there are different exercises for students of different classes that require them to apply the learning of such workshops or to learn more about information literacy. Each such exercise is supported by different types of intervention as given in Table-2. Perception of students about the input they received after attending such courses, as captured through focus group interviews, were found to be (i) knowledge that information from all source do not have equal validity (ii) quality issue of information resources (iii) orientation to good journals in a disciplines (iv) learning such skills as properly referencing, summarizing and pulling out keywords etc. The learning objectives were measured by assignments and activities which tested students' knowledge of what they learnt and this required the students to document their research process, including the search strategies and the databases used (Ward & Hockey 2007).

Some other practices of faculty-librarian collaboration supported are: a compulsory introductory management course integrating information literacy program that is offered in first semester by University of Auckland; a first-year seminar in Penn State University (Lindstorm & Shonrock, 2006); and a general education course – Using Information Effectively (UIE) – offered by Towson University. UIE has different modules for information literacy. At which point in the semester the students will be effectively introduced to various library resources are determined by librarians and faculty members teaching UIE. The program also assesses students' computer literacy level in order to refer them to appropriate remedy. Customized instructions range from one-shot English class to the upper-level writing classes (Black, Crest, & Volland, 2001).

Information literacy programs – Indian scenario

Ghose and Das (2006) described several phases in an individual's knowledge life cycle and identified two such phases when information literacy training can be of paramount importance. One of these two phases covers secondary/higher education periods when one invests substantial amount of time in order to build her/his future. They referred to specifically designed information literacy programmes in Navodaya Vidyalayas – network of residential schools scheme of the Government of India for the children of rural India

covering 6th to 12th class – in which the students are required to prepare project reports based on resources available in their respective libraries. Such programmes partly align with the proposals made in this paper. But generally, the schools which have a library facility offer separate library hours when one can learn how to use a library.

In the institutions of higher learning and research in India, information literacy programmes have started gaining importance over last few years. This is primarily due to the activities of several consortia in the country. These consortia activities have resulted in the accumulation of a large number of electronic resources in various academic and research organizations. Contrary to erstwhile user education programme which were more individual organization-centric in the days of information resources based on CD-ROM or online services providers like Dialog or ORBIT, a more general pattern of information literacy training is emerging across organizations. In order to maximize the use of those resources, programs at various levels are being conducted. For example, consortium like INDEST (Indian National Digital Library for Engineering Science and Technology) periodically conducts workshops and training programs and also supports similar programs in various member organizations. Librarians as well as users are target of such programs. Familiarizing various electronic resources and various features of those resources which can be profitably exploited are the major objectives of such programs. As mentioned, however, such programmes are more oriented mechanistic aspects of bibliographic instructions and offered by vendors or librarians with a stress more on the resource at hand than on the problems to be solved. Of late, University Grants Commission of India has brought some changes in the doctoral programmes. Besides an entrance test, doctoral students will have to do some course work for at least one semester. It is hoped that training them on using appropriate information resources will find a place in such courses.

There are also efforts which link the country's information literacy initiatives to the global trend. Two workshops – International Information Literacy Workshop in India, Patiala, 2005 and Training-the-Trainers Workshop in Information Literacy for South and Central Asia, 2008 – were conducted, in this context.

Notwithstanding such initiatives and actions, information literacy programmes in India are yet to be viewed as part of an integrated academic programme. This is the gap which this paper urges to fill in. The prerequisite to fill such gap are: recognizing information literacy as a tool for problem solving in class room activities, developing appropriate class exercises involving practical applications of information literacy training, and criteria for assessing those exercises; and finally, paving the way to faculty-librarian collaboration in order to make such courses successful.

Faculty-librarian collaboration model in India - Challenges

The proposed collaboration, however, may face serious challenges from two perspectives. One of those is the preparedness of the librarians for teaching in classrooms. This kind of programme requires capability development of librarians with respect to designing or helping the faculty to design appropriate course works which will involve information literacy programs, ability to teach in a subject class and subsequent interactions with the students, and ability to evaluate the students' performances. As such, courses in Library and Information Science do not include training on teaching and this may be a future need for Library & Information Science education.

Table 2: Exercises and Interventions in Information Literacy Programs

Students' level	Exercises	Intervention
First year degree students	write short essays after research and they were questioned on the process of searching and locating information from university library	a lecture introducing the skills required for the purpose
Second year degree students	to write a position paper	an online workshop as part of the course which showed them how to identify concepts, develop search strategies, determine amount and type of information needed, and use of specific sources
Third year degree students	to evaluate the information resources. While they were required to write an overview paper on a topic, the task required to search literature widely and attach search strategy as part of the assignment (for third-year degree students).	While for some courses, the intervention was in the form of interactive lecture provided by the librarian to demonstrate a search process surrounding a product, some other course required a face-to-face workshop as intervention.

Another perspective is faculty-librarian perceptions about each other. The proposed structure of information literacy program demands an educational mission that involves teaching and yet is naturally rooted in the structure, functions, and expertise found in academic libraries rather than within higher education's accepted teaching segment, subject faculty. This can lead to an uneasy situation in which a group which predominantly and exclusively was seen as support providers can be viewed as encroaching the area that is teaching which is considered legitimate for faculty members only (Owusu-Ansah, 2004).

Conclusion

Confronting the earlier views that the academic library should stand as infrastructural support in terms of resources and facilities outside the classroom, this author argues that the academic library should become part of the classroom. Academic librarian's expertise must be used in this context. Limiting the library to passive functions of collecting, processing, storing and occasionally and sporadically aiding faculty and students with retrieval is no more tenable (Owusu-Ansah, 2004). As India strives to become a knowledge society, this new role of librarians is even more important. Information literacy programs, as part of mandatory academic curriculum, and developed within the frame of situated learning and implemented through faculty-librarian collaboration model can serve a great purpose in this regard.

References

1. Bawden, D. (2001). Information and digital literacy: a review of concepts. *Journal of Documentation*, 57(2), 218-259.

2. Black, C. , Crest, S. , & Volland, M. (2001). Building a successful information literacy infrastructure on the foundation of librarian-faculty collaboration. *Research Strategies*, 18, 215-225.

3. Brasley, S. S. (2008) Effective librarian and discipline faculty collaboration models for integrating information literacy into the fabric of an academic institution. *New Direction for Teaching and Learning*, 71-88,114.

4. Brown, J. S., , Collins, A. , & Duguid, P. (1989). Situated Cognition and the Culture of Learning. *Educational Researcher*, 18 (1), 32-42.

5. Doyle, C.S. (1992). *Outcome measures for information literacy. Final report to the National Forum on Information Literacy.* Syracuse, NY: ERIC Clearinghouse. (ED351033).

6. Giddens, A.. (2008). The constitution of society: outline of the theory of structuration. Cambridge: Polity Press.

7. Ghose, S. B. & Das, A. K. (2006). Information literacy initiatives in india with special reference to emerging knowledge economy. *Paper presented at the International Conference on Information Literacy (ICIL 2006), June 14-15, 2006; Kuala Lumpur, Malaysia.*

7. Lindstorm, J., & Shonrock, D. D. (2006). Faculty-

librarian collaboration to achieve integration of information literacy. *Reference and Users Service Quarterly*, 46(1), 18-23.

8. Miller, G. A. , & Gildea, P. M. (1987). How children learn words. *Scientific American*, 257(3), 94-99.

9. National Knowledge Commission. (2007). *Libraries – gateways to knowledge: A roadmap for revitalization*. Retrieved on January 27, 2009 from *http://www.knowledgecommission.gov.in/ downloads/documents/NKC_Libraray.pdf.*

10. Orlikowski, W. J. (2000). Using technology and constituting structures: a practice lens for studying technology in organizations. *Organization Science*, 11(4), 404-428.

11. Owusu-Ansah, E. K. (2004). Information literacy and higher education: placing the academic library in the center of a comprehensive solution. *The Journal of Academic Librarianship*, 30(91), 3-16.

12. Rader, H. (1991). Information literacy: a revolution in the library. *RQ*, 31, Fall, 25-29.

13. Rockman, I. F. (2003). Information literacy – a worldwide priority for the twenty-first century. *Reference Service Review*, 31(3), 209-210.

14. Scott, W. R. (2008). Institutions and organizations: ideas and interests. Los Angeles:Sage Publications.

15. Sewell, W. H. (1992). A theory of structures: duality, agency, and transformation. *American Journal of Sociology,* 98(1), 1-29.

16. Snavely, L. & Cooper, N. (1997). The information literacy debate. *Journal of Academic Librarianship,* 23(1), 9-20.

17. Tuominen, K. , Savolainen, R. , & Talja, S. (2005). Information literacy as a sociotechnical practice. *Library Quarterly*, 75(3), 329-345.

18. Virkus, S. (2003). Information literacy in Europe: a literature review*. Information Research,* 8(4).

19. Ward, H. & Hockey, J. (2007). Engaging the learner: embedding information literacy skills into a biotechnology degree. Biochemistry and Molecular Biology Education, 35(5), 374-380.

20. Webber, S. & Johnston, B. (2000). Conceptions of information literacy: new perspectives and implications. *Journal of Information Science*, 26(6), 381-397.

21. Williams, D. A., & Wavell, C. (2007). Secondary school teachers' conception of student information literacy*. Journal of Librarianship and Information Science.*, 39(4), 199-212.