

# UNDERSTANDING INFORMATION LITERACY

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## **Abstract**

*There is a growing concern that users cannot retrieve and evaluate information that will be required for problem solving and decision making, that is, they are not information literate. This paper examines the way information literacy should be understood. Alternative models which can be applied are introduced. It also outlines what an information literacy curriculum should entail. A number of resources to support the program are suggested. The paper concludes that the information literacy question is a complex one.*

## **Introduction**

It has become increasingly complex for users to effectively navigate the vast information resources. The library is increasingly taking the challenge as an information intermediary of connecting users with the resource, but not necessarily storing the information itself. Users must not only have reading skills and computer skills, but information literacy skills as well. There is a growing concern that users cannot retrieve and evaluate the information that will be required for problem solving and decision making, that is they are not information literate.

## **What is Information Literacy?**

The terms information literacy, bibliographic information, and library research instruction are used interchangeably to describe librarians, efforts to teach users how to find, retrieve, critically evaluate and use appropriate information in all its forms. Information Literacy goes beyond the skills and knowledge involved in information seeking and retrieval, and strives for higher levels of understanding regarding the context of information in today's society, its composition and organization, as well as its use in life long learning (Brandt 2001:73).

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To be information literate, one has to be able to recognize when and what information is needed and have the ability to locate; access evaluate, organize and use effectively the information from a variety of sources. One has to learn how to learn and become an effective information consumer. With the provision of so much information and hence more chances of misinformation, every one must have not only reading skills and computer skills, but information skills too. This involves a deeper understanding of how and where to find information, ability to judge whether the information is meaningful, and ultimately how best that information can be used to address the problem or issue at hand.

This paper examines the way the concept information literacy should be understood. It is basically a theoretical paper on which specific case studies could be based. Information Literacy is seen as a strategic issue for institutions of higher learning. Alternative models which can be applied are introduced. It also outlines what an information literacy curriculum should entail. A number of resources to support an Information Literacy program are suggested.

Information literacy is a survival skill in the information age. It is not the same as computer literacy (which requires a technological know how to manipulate a computer hardware or software) or library literacy (which requires the ability to use a library's collection and its services) although there is a very close relationship between these concepts. All the two competencies are required for anyone to become information literate today. These are therefore essential parts of a wider concept of Information Literacy, with library and Information Technology skills being the foundation, or precursor to Information literacy. Users achieve skills and knowledge in the two skills that allow them to enter an Information Literacy program at the appropriate and required learning level.

Information literacy requires an awareness of the ways in which information systems work, of the dynamic link between a particular information need and the source and channel required to satisfy the need. The library, which provides a significant public access to information, usually at no cost, must play a key role in preparing people for the demands of

today's information society. By using your information literacy skills you can, more effectively, recognize information needed, select, search and evaluate the sources, and be able to organize, apply and communicate information to others in ways appropriate to a particular situation. Using information literacy skills also enables one to synthesize and build upon existing information thereby contributing to the creation of new knowledge.

### **The role of Information literacy in learning**

Solid information literacy skills are necessary across all academic disciplines. Education requires a new model of learning, learning that is based on information resources of the real world, learning that is active and integrated, not passive and fragmented.

What is required is a learning experience that builds a lifelong habit of library/ information use, that would actively involve students in the processes of:

- knowing when they have a need for information
- identifying information needs to address a given problem or issue.
- evaluating the information
- organizing the information
- being an information literate so as to address the problem or issue at hand.

The restructuring of the learning process will

- enhance the initial thinking skills of students
- empower them for life long learning and the effective performance of professional and civil responsibilities. People who are information literate are the most valuable resource.

So what is required is a new view of learning.

Information professional are now witnessing:

- major shifts from paper to electronic media
- increased demand for accountability including focus on users, performance measurement, and continuous improvement

- new forms of work organization e.g. horizontal organizations, work teams etc.
- the new view on learning which considers the learner, not the teacher to be in the central position (to be at the center). According to this view the student is active and creates his/her own knowledge.

Learning in the virtual environment may seem to be easy. This is advertised as being able to reach users at anytime of the day or night at any site in the world. It places the highest value on access, accuracy and timeliness. It also values personal services, of course without the librarian and the user meeting in person. This perspective overlooks one of the most important consideration of information transaction: the social concept.

There is an impression that if one has an Internet connected PC and a suitable browser this kind of learning will start automatically. To be successful, the Virtual University demands a new kind of knowledge among both faculty and students and new forms of collaboration between the teachers, pedagogical experts and information specialists.

According Barry (1997), three broad categories of required information skills emerge. First is the increasing need for evaluating the quality of the information. This involves filtering out excess information and focusing on special needs. Secondly, the need to acquire information from diverse resources and skills to operate the complex technology within which the information is embedded. Lastly, the linguistic and logistic skills needed to formulate information needs and make them explicit in a form understandable by the systems and also to read, decode and interpret electronically provided information.

### **Information Literacy (IL) or user empowerment?**

A number of changes have taken place and are continuing to take place in scholarly communication. University Libraries have responded, and are continuing to respond to the changes in scholarly communication by introducing a variety of innovations in the way in which the role of the Library is performed. These changes include:

- Movement from ownership to access of information materials
- Developing means to provide access to new modes of delivery of scholarly information through developing an appropriate computer infrastructure, negotiating licenses etc.
- Resource sharing to ensure access to a variety of materials.

Alternative models exist for the development of an Information Literacy program: (<http://www.ucalgary.com> (last updated on 8 May 1998))

- A required versus optional dimension i.e. should the achievement of the outcome be an optimal part of the program or a program requirement and therefore necessary for completion before the degree is conferred.
- Passive versus active i.e. the University or a Faculty/Department setting a standard of Information Literacy achievement but taking a passive role in providing instruction.

The models described below have been developed as alternatives for providing IL skills (<http://www.uclalgary.com>). The major challenge is to train users on how to benefit from networked information services. University students normally prefer books, and most of their demands focus on books.

A study conducted at the UDSM Library on information technology applications for online searching shows that a big proportion of the respondents (66.7%) said that they preferred printed resources to electronic ones where as only 8.3% preferred on line reference materials and 25% preferred to use both books and online materials. (Augustino and Nyerembe 2002:178). One major reason for this trend is that users are not conversant with ICT application because of the intricacies involved in searching for information using modern technologies. There is therefore a need to train users in the use of electronic resources. This is a valuable investment which needs to be utilized, otherwise it becomes a waste.

### **Model 1**

Ability to access a variety of information resources seen as an optional feature of the University curriculum, and the institution providing a low level of user support for its development.

#### **Advantage:**

Very low cost, easy to maintain.

#### **Disadvantage:**

Expected low level of Information literacy for graduates, users unable to efficiently and effectively navigate a variety of information resources.

### **Model 2**

Ability to access different information resources viewed as an optional feature of the University curriculum, but effort is made through the library and academic units to provide optional training in this area. This could be a non-credit services course.

#### **Advantage:**

A higher level of instruction provided to users with the motivation to avail themselves to it, and cost may be low.

#### **Disadvantage:**

There is an uneven level of Information Literacy among graduates and even among those with the same academic units.

### **Model 3**

The University or Faculty/Department define a standard of competence in Information Literacy that is required of all students before graduation, e.g. the Communication Skills program at the University of Dar-es-Salaam.

#### **Advantage:**

It is a cost effective mechanism since the onus is on the student to satisfy the requirement.

**Disadvantage:**

It has the potential for high level frustration on dissatisfaction if appropriate steps are not taken to enable them to fulfill *this requirement*.

**Model 4:**

Effective Information Literacy is a required element in all units, and the faculty/ department together with Library, play an active role.

**Advantages:**

Students and academic staff achieve higher levels of competence. It leads to the development of a superior IL program within the academic unit in collaboration with the library: It also leads to a much greater integration of Information Literacy into the curriculum, and to the teaching – library staff cooperation.

**Disadvantages:**

Increases the number of Library staff to provide Information Literacy training. It also has a high cost implication e.g. training and retraining Library staff.

The articulation of the above models is itself an invitation to look more deeply into the challenges and resources of Information Literacy.

**What is the suggested 'right' model of Information Literacy (IL)?**

The above models are not mutually exclusive. Each model mentioned above is based upon a set of core service values, but each emphasizes a different subset of these values. Each model of IL should be measured against its ability to support the values upon which it is based. Actually, it is important to expect that a combination of some kind will form part of the University's strategy for achieving appropriate levels of Information Literacy.

It is also important to expect the University or Faculty/Department to have a developmental approach to the provision of Information Literacy, and to achieve high standards over a period of time. Information Literacy has to be seen/viewed as a foundation skill for academic success

and a very important component of in depth, lifelong learning. Therefore it needs to be incorporated into the education mission. A new paradigm will emerge where librarians and faculty adapt a broader sense of the role of information literacy skills in University education.

### **What should be the role of information professionals?**

This is a new challenge to library and Information professionals. St. Clair (1999) identified two dilemmas or challenges facing libraries today:

- Knowledge of the users' information needs. It is difficult to study the needs of the users, when they work at their own working stations, without visiting the library. It must be acknowledged that active communication between librarians and the users is essential to develop successful information systems.
- What is the meaning of information in teaching/learning? The importance of knowledge about how information influences the teaching/ learning process cannot be over emphasized.

### **How should information skills be imparted?**

Two main roles for the Library and information professionals have to be considered.

information in today's society, its composition and organization, as well as its use in life long learning (Brandt 2001:73).

- the information provision.

Therefore the role of the information professional changes into the role of a teacher. The Library then moves away from being a standard support service into some thing which is part of the academic process. But shortage of staff, time, space, appropriate skills, financial resources, academic staff perceptions of library and Information colleagues and politics, all constrain teaching/learning initiatives.

Over time committees change, libraries change, and model of Information Literacy delivery also change. Determining the best model of Information Literacy (service) provision for a



particular library should be a process of evolution, not revolution, based upon changes affecting the library and its users.

In this context team teaching is being emphasized. In a team teaching approach it is important to show parallel command, showing to students that both the librarian and professor operate on an equal basis with full knowledge of each other. This will also ensure quality control.

The major question remaining is how to incorporate Information Literacy instruction into the academic curriculum. Should everybody take a course in creating a web page, computer programming or multimedia authoring? Or should we just look at a broader and deeper challenge i.e. to rethink the whole educational curriculum in terms of information literacy programs? This is a major challenge both intellectually and practically, and deserves extended discussion and collaboration among both teaching staff and information professionals.

Now what should an Information Literacy curriculum entail? Shapiro and Hughes (1996) provide a brief sketch of such a curriculum in seven dimensions of literacy or multi literacy. These are:

- Tool literacy: This is the ability to understand and use the practical and conceptual tools of the current ICT. This may mean the basics of computer and network application.
- Resource literacy: This is the ability to understand the format, location and access methods of information resources. This is similar to librarians' conception of information literacy which also includes concepts of classification and organization of those resources.
- Social structural literacy: This means knowing how information is socially situated and produced. It also means knowing how information fits into the life of groups, about the institutions and social networks e.g. Universities, Libraries etc; institutions that create and organize information and knowledge.

- Research literacy: This is the ability to understand and use ICT based tools.
- Publishing literacy: This is the ability to format and publish research and ideas electronically, to introduce them into the electronic public domain and the electronic community of scholars.
- Emerging technology literacy: This is the ability to adapt to, evaluate and make use of the continually emerging innovations in ICT. It includes understanding of the human, organizational and social context of technologies as well as criteria for their evaluation.
- Critical literacy: This is the ability to evaluate critically the intellectual, human, and social strengths and weaknesses, potentials and limits, benefits and costs of IT.

What is being argued here is that by taking information literacy in such a multi-dimensional sense, we mean talking about a new curriculum framework that equips people, not only with technical skills but, with a broader, integrated and critical perspective on the current world of knowledge and information. This would include its origins and development trends, its philosophical justification, biases and limits, and its potential for human emancipation and human domination, and for growth and destruction( Shapiro and Hughes 1996).

This can be achieved within the context of the 'right' model of information literacy described above.

### **Who should be responsible for conducting Information Literacy programs?**

The issue is not whether there should be information literacy, but rather how best to provide it. Much as librarians can make a crucial contribution in integrating Information Literacy into the curriculum, this does not seem to be an easy task. There is always confusion about who should be responsible for teaching the skills.

Katundu (2001) notes that ' librarians themselves must lead the way in critically defining what aspects of the programs would be needed'. But one would ask: Will University professors view library staff as the logical group to facilitate such programs? Will faculty accept librarians as partners in teaching and learning given their attitude towards librarians? Also does faculty have a good grasp of the role and complexity of the contemporary university library? (Nyerembe 2001:4).

It can be argued that librarians, by virtue of their training , knowledge and experience, are well placed to play the role. Librarians with relevant subject knowledge can join faculty members in teaching Information Literacy, and this justifies a team based approach. There are some faculties/ departments which are currently teaching various aspects of Information Literacy. Therefore, there is a reasonable base of faculty support upon which to build. This approach is important because pedagogical practices with respect to Information Literacy vary considerably from department to department.

One major strategy is to conduct a survey to explore faculty attitudes towards Information Literacy, gain a greater understanding of the ability of the library research instruction needs of students, determine what approach would be most supported by faculty to meet those needs. There is also a need to study the information seeking behavior of users across a variety of disciplines.

Another strategy is to have enough resources so that students can learn through exposure. The last strategy is to create or develop an awareness of the need to master information management skills.

Librarians will be required to consult with faculty and learners and to provide training and guidance towards the sharpening of Information Literacy skills. The range of users who use the library and given the linking of library resources and the stepped up demand for resource sharing among libraries escalates the importance (and cost) of information literacy.

The following factors seem to result from the successful integration of information skills into the academic curriculum:

- The institution has a strong commitment to excellent educational outcome for the students in the areas of critical thinking, problem solving and information skills;
- Library administrators have long-term commitment to integrate library instruction into the curriculum;
- Faculty and librarians work together in curriculum development (Rader 1995). This will involve reordering instructional roles and relationships as well as restructuring assessment strategies (Bleakley and Carrigan 1994).

### **What are the implication for Libraries and Librarians?**

The movement from text based learning to resource – based learning will involve heavier use of library materials and demand for more and varied media resources both print and non print. There will be a need to re-evaluate how funds are distributed between the textbook budget and budget for other library media resources.

### **CONCLUSION**

Drucker (1969) foresaw that the most important thing people will have to do is to learn how to learn. What is more important is not specific skills, but universal skills, that of using knowledge and its systematic acquisition as the foundation for performance, skills and achievement.

But meaningful access to Information and Communication Technologies (ICT) encompasses far more than merely providing computers and Internet connections. Rather, access to ICT is embedded in a complex array of factors encompassing physical, digital, human, and social resources and relationships. Contact, literacy, education and institutional structures must all be taken into account if meaningful access to new technologies is to be provided, for information to have lasting effects. To accomplish this, there is need to focus on transformation, and not technology. This

is because ICT is not something external to be injected from outside, but it is intertwined in a complex way in social systems and processes.

A number of resources are required: Physical resources, that is access to computer and telecommunication connections; digital resources, that is digital material made online; human resources that is issues such as literacy and education, including particular types of literacy practices that are required for computer use and online communication; and social resources that is the community, institutional, and social structures to support Information Literacy.

A re- examination of Information Literacy therefore allows us to re- orient its focus through its integration into the curriculum by taking into account the models the multi-literacies, and the range of resources outlined above. It is also important to note that effective use of ICT requires a profound transformation in the internal organization of the institution. This has to be followed by integrating Information Literacy into the wider educational programs.

The information literacy question is obviously a complex one. First, the timing and tailoring of the instruction is critical. Secondly, librarians must be prepared to take a flexible pedagogical approach. In this case the role of the librarian/information specialist should evolve into that of a teacher. Thirdly, there should be a more direct liaison with departments and individual faculty members. This requires a more proactive and interpersonal marketing strategies. But it must be acknowledged that restricted hardware and accommodation are barriers to providing the service, even if the skills and desires to do so are present.

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