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Indicators on 'information literacy' and the Information for All programme; a challenge for libraries**Simon Ellis**Head of Science Culture and Communications,
UNESCO Institute for Statistics**Meeting:****134. Information Literacy with Academic and Research Libraries****Simultaneous Interpretation:**

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<http://www.ifla.org/iv/ifla74/index.htm>**Abstract**

UNESCO is developing international statistics on information literacy to measure the degree to which people around the world can access the information they need to give themselves new social and economic opportunities. National standards for measuring information literacy skills are used in libraries of higher education in several countries. Public libraries have a key role in supporting the work of educators and in the provision of information to the general public. Libraries should also be both a good place to collect statistics and a good subject on which to collect statistics, as they are a recognisable community facility with a well understood role! Unfortunately few countries outside the OECD group produce data, as the development of a new international survey of libraries by IFLA, ISO, and UNESCO has demonstrated.

Introduction

On April 3rd 2008 UNESCO's Intergovernmental Council of the Information for All Programme adopted a new framework concerned with measuring people's access to information, including measures of information literacy. If Information for All is to be achieved citizens and residents in all countries must be able to have access to, and be able to make use of public information that will allow them to address their needs in terms of health, education, work, and many other government services. It will be impossible to achieve the Millennium Development Goals unless people can find out what they need to know to give themselves new opportunities to lift themselves out of poverty. UNESCO's CI Sector and Institute for Statistics have been working with the International Federation of Library Associations and other expert partners in response to a request from the IFAP Working Group on Measurement for Knowledge Societies to produce guidance to

member states. This has resulted in a publication entitled ‘Towards Information Literacy Indicators’.¹

Information literacy has emerged out of frameworks developed in the US and Australia for teaching university students how to access information. In this sense it began first and foremost as a libraries initiative. I will however argue that it has been reborn as a more general initiative to give all citizens in all countries the skills they need to address their everyday knowledge concerns, regarding education, health, work and much more. In this new form it needs to be re-ingested into the library system as public libraries find a new public information and education role in the ‘promotion of knowledge societies’. This role is one that many libraries find uncomfortable, but it is one that I would suggest they must adopt. If they remain mere ‘book and document’ repositories they will die in the face of the rapid expansion of digital information exchanged by mobile phone and other devices.

Policy framework

The overarching goal of the UNESCO Communication and Information Sector’s Information for All programme for 2008-13 is

“to help Member States develop and implement national information policies and knowledge strategies in a world increasingly driven by digital technologies”²

This goal reflects a broader interest of the sector in access to information and availability of the media, as well as UNESCO’s joint leading responsibility for the follow-up to the 2003/5 World Summit on the Information Society. UNESCO’s World Report ‘Towards Knowledge Societies’ in November 2005 at the time of WSIS concluded that knowledge societies would be built on three ‘poles’; narrowing the knowledge divide, ‘a more participatory approach to access to knowledge, and a better integration of knowledge policies.’ Its recommendations included the need for the development of knowledge society indicators.³ The publication of the World Report and subsequent follow-up of WSIS recommendations has seen a shift of interest towards content rather than technology, as one might say ‘knowledge societies not technology societies’. Technology is indeed a main to achieve an end, and that end is to allow more people to use the information they can obtain to solve their own problems, to raise themselves from poverty, to improve their health, to access government services and to find jobs.

Phrased in this way the links with other major international policies become clear. The main UN Millennium Development Goals seek above all to address poverty issues yet how can poverty be addressed when people do not have access and do not know how to

¹ UNESCO (2008). The main paper was written by Ralph Catts of University of Stirling, with Jesus Lau of IFLA and University of Veracruz. UNESCO Institute for Statistics added an appendix with an indicator framework.

² Information for All Programme Strategic Plan (2008 – 2013) Discussion Draft v17, UNESCO (2008).

³ *Towards Knowledge Societies*, UNESCO World Report, UNESCO (2005) pp188-190 for the three pillars and p.194 for statistical indicators.

access government services, education and health? For UNESCO the role of education in relation to information access has been identified as a priority by the 2006 Education for All Global Monitoring Report.⁴ The report highlighted the importance of the literate environment in achieving UNESCO's paramount objectives of Education for All. It is well known that literacy programmes are only successful when they are taught in relation to tasks that students are seeking to accomplish in their everyday lives. Even in developed countries, like Canada, it is becoming clear that students who are successful at school but who then live the rest of their lives in remote communities risk losing the literacy skills they picked up in their childhood. A literate environment, access to newspapers, books, radio, TV and the Internet is thus a key to overall participation in society including social and economic opportunities. Before I worked for UNESCO I led London Skills Forecasting Unit⁵ which was responsible for identifying the skills needs of Londoners; we spent a lot of time discussing the skills needed to obtain a job in London, concluding that in a big metropolis it needed special skills to know where to look for a job (word of mouth not newspapers), and how to sell yourself (travel a lot and present yourself in peoples offices, don't just send a cv). Today I would see these skills as part of information literacy.

Libraries have a very natural role here and should be leading this development. Information literacy was, and still is, a library based programme. Libraries are seeking a broader role in 'information societies' and often directly in education and here is information literacy, something that they already know, which can give them this role. Everyone's favourite librarian is the one who can find documentation on ANYTHING – the person who really has top rate information literacy skills. In developing countries the library has a unique position. It is the only community institution the role of which is clearly understood, and which has a neutral response to requests; not especially a response of the government or even the local administration but simply a response to help people to tackle their own problems. The public information role of a library therefore sits closely alongside its educational role. Indeed education and public information roles can be brought together in a library that explicitly sets out to create the space in which people interact, sharing information and helping each other, forming a zone for social networking and community discussion.

Measures of access to public information - provision

Information literacy is seen as a set of skills and thus for measurement at the individual level. However if we are talking about access to public information there are at least two aspects of media and information which must be measured before thought is given to measuring skills. Provision; a person may have excellent information literacy skills, but if there is no public information on which to exercise them the objective of a knowledge society will not be achieved. Availability and access; there may be very good public web sites in a country, but if people do not have computers then they will not be able to exercise information literacy skills.

⁴ *Literacy for Life*, Global Education for All Monitoring Report 2006, UNESCO (2005)

⁵ Simon Ellis, Amer Hirmis, Mark Spilsbury *How London Works*, London Skills Forecasting Unit, Kogan Page London (2002).

Statistics on media provision to the population allow countries to measure whether newspapers, radio and TV reach all parts of the country. Data from the UIS newspaper survey indicates that Malaysia, the non-OECD country with the highest newspaper circulation in relation to its literate population had an average circulation of 165 daily papers per 1,000 literate inhabitants. This contrasts with an equivalent figure of 650 papers in Norway (the highest in the world), and less than 2 daily newspapers per 1,000 literate inhabitants in Niger, Benin, and Kyrgyzstan (the lowest figures amongst countries which responded).⁶ To these traditional media we can add Internet radio and 'bloggers'. The barriers to provision in the form of telecoms infrastructure and distribution networks mostly relate to cost and geography. Large dispersed rural populations can be very difficult to reach. It is in this area that the advent of the mobile phone has had such an impact, reducing the need for costly and complex installation of fixed cables, and allowing easy exchange of person to person information even in areas with low literacy. The latest report on progress towards the Millennium Development Goals indicates that between 1990 and 2005 the number of mobile telephone subscriptions worldwide rose from 11 million to 2.2 billion, while fixed telephone line subscriptions grew from 520 million to 1.2 billion in the same period. Thus land phones were almost 50 times more popular than wireless in 1990, while in 2005 the wireless phone is almost twice as popular as the land line.⁷

Data on provision of information are relatively easy to come by and national level. Press authorities and newspapers themselves generally have data on circulation. Radio/TV regulators, broadcasters or ministries have data on listeners/viewers. The UIS 2006 broadcast survey found that some 60 countries could provide data on geographical coverage of radio and TV, while 27 countries could provide data on the number of hours devoted to education and scientific programmes.

Measures of access to public information – availability and access

Given a good level of provision of public information the next question for statistics is whether such provision can be accessed easily by local people. Do households have radio and TV, a fixed or mobile telephone? They may have a computer with Internet access in the house, or they may have access to the Internet through a public facility such as a library or a private Internet café. Radio and TV are the most ubiquitous channels for public information in developing countries. They are relatively cheap and unlike printed media they do not require reading a written text for comprehension. Availability is often increased by using mixed technology. For example newsheets can be distributed by Internet and then printed out for local circulation. The success of the iPod has also led to several programmes in developing countries in which educational material is downloaded like music! Barriers to the availability of information can be more complex and more difficult to surmount than those of provision. They include a wide range of factors such as living simply too far away from a public information point, or being unable to enter a café because access is restricted to men or adults. UIS estimates that there were 775 million illiterate adults in the world in 2007 of which 64% are women.⁸

⁶ UIS Newspaper Survey 2005.

⁷ 'The Millennium Development Goals Report 2007', United Nations (2007), p.32.

⁸ UIS Literacy estimates 2007, (April 2008).

A key basic barrier at this level is language. Lack of knowledge of European languages, especially English, presents a major issue with regard to accessing the Internet or even knowing how to use technology. Lack of knowledge of official languages or having a mother tongue which has no written text creates even more difficulty.⁹ Under such circumstances local people often have to seek the aid of a ‘middleman’ or ‘information broker’ who may charge for their services, and who may have a vested interest in pointing his customer towards a particular shop or service. The UIS Broadcast Survey 2006 indicated that some 61 countries could provide data on community radio stations, and some 54 countries reported devoting broadcasting time to issues of concern to indigenous and tribal people.¹⁰

Data on availability and access is normally collected either through subscription data or through household surveys, each of which suffers from a key technical problem. Subscription data – number of mobile phone subscriptions – does not reflect actual availability. For example a male head of household may have several mobile line subscriptions, but his wife and children may not be able to access any of them. Several international and national household surveys collect data on the availability of old and new media technology; radio, TV, PCs (with and without Internet), mobile phones. Once again the head of the household is the potential problem. It is commonplace in such surveys to ask the head of the household to answer on behalf of all household members, but the head may well over-emphasise availability to other members of the household. In some countries upwards of 30% of responses to household surveys are obtained in this way presenting significant worries of data quality

Library statistics

Since 2005 UIS has been working with the IFLA library statistics group to see whether the UNESCO global library statistics survey can be revived. As has already been suggested the library is perhaps the most identifiable institution, outside government, at community level across the world. It also has several advantages in relation to statistics. The function of a library is well understood – it is likely that everyone would understand a library as a community facility that lent books and other reading material, even if that facility was a donkey or a spot under a tree. A library is also a good place to collect statistics as there should be staff who maintain some accounting for books on loan as well as interest in housing local statistical publications about the community. Data from the National Census should be housed in local libraries, and are generally the source of information on the number of literates in any locality. Indeed it could be argued that census data on literacy should be the starting point for any plan to consider the siting of new libraries; either placed where there is a demand from literate people or where high illiteracy demand a school and library to address the problem.

Initial enquiries by IFLA ascertained that the best region with hopes of a fairly complete data return was Latin America and the Caribbean. A survey was drawn up compatible with the latest ISO standard for library statistics that had been drawn up in 2006. In 2007

⁹ *Measuring Linguistic Diversity on the Internet*, UNESCO (2005).

¹⁰ UIS Broadcast Survey 2006

the questionnaire was sent to national bodies responsible for university and public libraries. Responses were received from 25 out of 41 countries or 61%.¹¹ The majority of responses covered public libraries and not university libraries. This is not a particularly low rate of response for an initial international survey; on the other hand this is coming from the region where one had hoped for the highest level of response after OECD countries.

Further discussions have followed. It is clear that many librarians see statistical indicators as something forced on them by governments as a check on their activities. Where they are engaged in statistics they are maintaining administrative system for regulating their own collections.

I find it startling that so few libraries

- ❖ look at external survey data to see what their customers like to read
- ❖ use Census data to look at the demographic distribution of potential readership, as well as to plan where best to locate new library branches
- ❖ outside OECD countries have even basic management systems to compare numbers of readers with numbers of loans

There is interest in the UNESCO Regional office for Asia to undertake the survey in that region, but UIS will not do so until we are sure that data will be forthcoming. We desperately need IFLA activists in the region! Further than this I just do not understand how any modern library can operate without basic statistics concerning its readership.

As I have said the future role of libraries as centres for education and information access is central to their survival. 16 countries or 39% were able to say how many 'events' they held and slightly less (12-14 countries) were able to say whether libraries provided user training sessions.¹² It is of course at these training sessions that users would normally be show how to access the collections, and these are the courses in Universities in the US and Australia that have formed the basis for the information literacy skills we are considering here.

Information literacy skills

We have now considered the provision of information as well as access and availability. We have discussed libraries role as centres for information provision in this, and highlighted the fact that despite their perfect positioning for such a role few libraries have taken it up, neither do libraries in developing countries have the basic statistics need to manage their own functions and planning. Nevertheless we have returned to the observation that certain key libraries, especially in the US and Australia were the origin of the information literacy debate.

¹¹ UIS/IFLA/ISO Libraries Survey of Latin America and the Caribbean 2007

¹² UIS/IFLA/ISO Libraries Survey of Latin America and the Caribbean 2007.

The US Association of College and Research Libraries were the first to draw up a standard framework for information literacy in 2000.¹³ The framework includes five skills (ACRS2000; 8-14).

The information literate student

1. determines the nature and extent of the information needed.
2. accesses needed information effectively and efficiently.
3. evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
4. individually or as a member of a group, uses information effectively to accomplish a specific purpose.
5. understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Each skill is associated with several defined levels of competence and indicators of competent behaviour. The skills are normally tested through a questionnaire and thus they may represent more what students know about the subject than their actual behaviour in looking for information.¹⁴

Australia and New Zealand have a joint framework for information literacy including six standards.¹⁵

The information literate person

1. recognises the need for information and determines the nature and extent of the information needed
2. finds needed information effectively and efficiently
3. critically evaluates information and the information seeking process
4. manages information collected or generated
5. applies prior and new information to construct new concepts or create new understandings
6. uses information with understanding and acknowledges cultural, ethical, economic, legal, and social issues surrounding the use of information

Standards 1, 2, and 6 are very much the same as in the US version. Standard 3 seems slightly more limited in definition than the US. Standards 4 and 5 seem more elaborate than the US framework in specifying how the information gained is used. The standard recommends using assessment techniques to test whether students actually use these skills in practice.¹⁶ Whereas the American framework is specifically designed for college graduates the Australian and New Zealand one aims at all people¹⁷ even though it

¹³ Association of College and Research Libraries, *Information and Literacy Competency Standards for Higher Education* (2000) [2004], pp.8-14.

¹⁴ *Towards Information Literacy Indicators*, UNESCO (2008) pp.20-1.

¹⁵ A. Bundy ed. *Australian and New Zealand Information Literacy Framework principles, standards and practice*, Australian and New Zealand Institute for Information Literacy (2004).

¹⁶ *Ibid* pp.26-7

¹⁷ *Ibid* p.4

subsequently concentrates on a curriculum and formal assessment in an educational context.

In their report to UNESCO Catts and Lau¹⁸ recommend the following information literacy skills

1. Recognise information needs
2. Locate and evaluate the quality of information
3. Store and retrieve information
4. Make effective use of information
5. Apply information to create and communicate knowledge

They discuss the different techniques to judge whether people have acquired these skills differentiating between self-reporting of skills through a questionnaire and active testing of performance during problem solving. The approach they favour is to measure information literacy skills through UIS LAMP literacy assessment.

LAMP is UIS literacy assessment for developing countries. It is derived from the methodologies used for OECD's International Adult Literacy Survey (IALS). LAMP is based on a sample survey of adults (aged 15 years or more) to identify the full range of literacy - from the most basic reading and writing to the skills needed to participate fully in a learning society. The target population is the whole population of adults (aged 15 and over) currently living in the country. The background questionnaire collects information such as family background and characteristics (parental education and language), individual attributes (age, gender, language, educational attainment and employment status), participation in education and training, and literacy activities including the use of information and communication technology and other literacy practices. In addition, variables on human and social capital, quality of life and a series of questions specific to the domains being measured by the assessment may be incorporated.

A 'filter-test', based on a selected subset of items drawn from IALS and from LAMP common items, is used to assign individuals to a low skilled or a high skilled group. Low skilled individuals will be administered a small number of low difficulty items selected from the IALS/LAMP common item pools. These items will allow individuals to be placed on the LAMP proficiency scales and the component results to be linked to these scales. Higher skilled individuals will receive these items and an additional set relevant to the national socio-economic situation.

For lower skilled respondents

Level 1 indicates persons with very poor skills, where the individual may, for example, be unable to determine the correct amount of medicine to give a child from information printed on a package.

Level 2 respondents can deal only with material that is simple, clearly laid out, and in which the tasks involved are not too complex. It denotes a weak level of skill, but more hidden than Level 1. It identifies people who can read, but test poorly. They may have

¹⁸ *Towards Information Literacy Indicators*, UNESCO (2008).

developed coping skills to manage everyday literacy demands, but their low level of proficiency makes it difficult for them to face novel demands, such as learning new job skills.

Level 3 is considered a suitable minimum for coping with the demands of everyday life and work in a complex, advanced society. It denotes roughly the skill level required for successful secondary school completion and college entry. Like higher levels, it requires the ability to integrate several sources of information and solve more complex problems. **Levels 4 and 5** describe respondents who demonstrate command of higher-order information processing skills.

The component skill measures that make up reader profiles are measured by:

1. *Alphanumeric perceptual knowledge and familiarity*: Recognise the letters of the alphabet and recognise single digit numbers; some of the items are very simple.
2. *Word recognition*: Recognise common words that appear frequently in print. These common words are expected to be in the listening /speaking lexicon/vocabulary of an individual who is a speaker of the target language.
3. *Decoding and sight recognition*: Produce plausible pronunciations of novel or pseudo words by applying knowledge of the sight-to-sound correspondences of the writing system, and do this accurately, rapidly and with ease.
4. *Sentence processing*: Process simple written sentences and apply language skills to comprehend - accurately, rapidly and with ease.
5. *Passage reading*: Process simple written passages and apply language skills to comprehend - accurately, rapidly and with ease.

Data obtained in the components assessment cannot be compared between countries or groups with different languages as the language learning process may also differ.

High skilled individuals are given a set of common items (IALS and LAMP) that will be used to relate national literacy and numeracy proficiency to LAMP scales for the purposes of international comparison, and a set of nationally-specific items.

The assessment is generally being conducted in more than one language to reflect official and majority languages. The test questions relate to routine tasks such as reading a medicine bottle or a government circular, asking respondents to read or interpret a text and say what action they would take as a result. For the purposes of information literacy it can be seen that LAMP includes both a detailed assessment of literacy and numeracy skills, and data on the potential access to information in the home through media and technology as well as the availability of books and participation in education. In particular LAMP considers information literacy as an active skill – an area which is often missing from tests which adopt a more passive approach to measuring literacy. Thus LAMP considers whether respondees can write personal letters or emails, produce maps, charts or diagrams, write letters to officials, and write message at work.

LAMP is currently being piloted in El Salvador, Mongolia, Morocco, Niger, and Palestine, with Jordan, Vietnam, and Peru to follow in a second wave. It is ultimately expected that LAMP data along with that from IALS and other literacy assessments will form the official UNESCO and UN data for monitoring progress to the Millennium

Development Goals and Education for All. As suggested at the start of this article this will position information literacy and its measurement at the heart of the international agenda for education and poverty alleviation.

Back to libraries again!

It has been suggested that libraries have a role in information literacy. In rural or small urban communities teachers and librarians are most likely to have a sense of what people like to read, whether they can read, and what might be available for them. It has been suggested here that when a illiterate person requires the services of an 'information broker' to help him read or understand a document that a librarian is one of the most neutral; brokers he can find.

Librarians thus may be amongst the best placed to understand what information literacy means and the skills levels in their communities. They should also, as has been argued above have the statistics to know how many people in their community are literate and to what degree. If libraries are to have any role in developing their services; knowing their readership, assuming a role in access to information, or assuming a role in education, they need this information.

Information literacy begun as a library initiative in the US and assessment has found a role in many universities in many countries. Will libraries continue to develop what they have started or will they drop the initiative, as might be suggested by the incomplete responses to the UIS/IFLA library survey? Higher Education institutions and national authorities in many countries surely have an interest in promoting information illiteracy skills along the lines set out in this paper. If libraries do not feel they have the capacity to work on information literacy they should certainly be asking for the information from National Statistics Offices, Ministries of Education or other agencies.

Conclusions

I began by establishing the key role of information literacy in relation international development goals. In the latter half of this article I have also show how information literacy indicators are central to UNESCO statistics for monitoring these international goals and as part of LAMP they are part of UNESCO Institute for Statistics most important single strategic project. Information literacy is thus central to both international policy and international statistics.

I have highlighted the difficulties that UIS and IFLA have found in collecting international library statistics, which extends to doubts as to whether many developing countries have the bare minimum figures needed to run national library services. The information literacy initiative emerged from pioneering studies by library associations. UNESCO and UNESCO statistics have shown how information literacy can be a crucial part of international policy. Will libraries respond to the challenge?