THE ONLINE AGE AND THE AGRICULTURAL USER EDUCATION

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Abstract

Accelerated developments in the computer and telecommunication technologies have been well exploited in production and provision of information to meet needs of different groups of agricultural user population, however in developing countries topmost computerized agricultural scientific and technical services available serve groups who by profession are scientists and academicians. User education became of crucial importance for optimum utilization of information. General user educational requirements, particular user response and problems, information resources, services, and available facilities were taken into consideration in designing an information service training course for agricultural researchers, a detailed outline of the course is given in this paper as well as trainees and trainers evaluation.
1. Introduction

Every person involved in agricultural development need some form of information and is a potential user, however each and every one has his own peculiar problems of communication with library/information centre, and hence in need for special educational/training programme in the use of information. Categorizing the agricultural users population according to their information needs [1] identified the following functional categories: policy makers and administrators; research scientists; diagnostic, analytical and industrial scientists; specialist advisers; educators and students; agricultural service industries; general advisers (extension work); farmers and rural people.

In industrialized countries the development of computer and communication technologies have been well exploited for the production and provision of information as well as educational programmes to meet the specific requirements of these varied user categories. In developing countries not all of these categories are well defined functionally and when considering the substantial disparity between the developed and developing countries in terms of extent and nature of their use of informatics today, the topmost agricultural scientific and technical information systems and services available serve the categories who by profession are predominantly researchers or academics.

The vital necessity of information for agricultural researchers need no emphasis and as a user group they do not vary form researchers in other fields, in that they need information to facilitate day-to-day work, to generate ideas and their needs are for online searching of bibliographic and nonbibliographic databases, retrospective literature, various abstracts and indexes.
SDI, current awareness, literature of both national and foreign sources.

The computerized information systems have compounded the information needs of research scientists by widening the range of primary journals which they have knowledge of. However, [2] identified one aspect peculiar of agriculture science is being most interdisciplinary of other fields as it is connected with chemistry, physics, soil science, genetics, pathology, meteorology, zoology, and many other sciences and it is not possible to find one single database to satisfy all information needs of agricultural scientists, hence they need a multidisciplinary interrogation of literature resources and consequently their training needs as users must include reference to dispersal information sources.

1.1 Online users educational needs.

The framework of the training programme must be oriented towards the following educational needs [3]: The scientific value of documentation and at what moment to carry out documentary work, this is particularly important to enhance treating access to information as the first step in scientific research and not as an afterthought.

- Acquaintance with search facilities and command language as during online retrieval the information worker behind the keyboard plays the role of deliverer of knowledge due to his mastering of access keys and languages as well as indexing techniques and thesaurus construction while the user acquaintance of words and scientific jargon, thus user will be able to intervene and redirect the retrieval process with his capacity to judge relevance during browsing first reference.
The best retrieval is carried out by one who builds the database hence user needs enlightenment in the approach to documentary techniques, analysis and indexing procedures, thesauri use and bibliographic description, the latter two needs are particularly important for a constructive dialog between user and searcher to achieve efficient retrieval.

2. The Scientific Affairs Office.

The office was founded in 1981 and intrusted the tasks of assimilation and coordination of scientific activities and affairs of the Scientific Research Council's centers. This office was allocated in 1987 the duties of scientific documentation of national, arabic and international sources and the provision of information services for the multidiscipline research scientists and academics of the Council and on a national level.

This latter task was performed by the scientific documentation and computer departments of the office. The computer incharge of databases installation and operation on mainframe computer. The databases of AGRIS, BIOSIS and INSPEC were installed as well as the council's books (SDC-MARK) and periodicals (SDC-ISDS) acquisition databases.

The documentation department incharge of collection and storage of Iraqi and Arabic literature, publication and distribution of the Council's scientific journals, production of specialized bibliographies and indexes, administration of the Council's specialized libraries in terms of books acquisition and periodicals subscription, the provision of manual and online retrieval (current, retrospective and SDI) service of databases installed on
the office’s computer as well as available in Dialog–lockheed online retrieval. The online service was supported by a foreign document delivery service (BLLD vouchers) and provision of UNESCO coupons for scientists personal acquisition of books and periodicals.

2.1 Users and implications for education.

The provision of online retrieval service involved considerable amount of our expenditure (foreign currency) and numbers of searches made every year did not justify this expenditure hence action was needed to increase user demand for information through educational programmes to familiarize them with potentials and utility of the service.

There was no need to conduct user studies and surveys to determine educational needs as we became comprehended of users major reason for abandoning the service, this was being provided with much irrelevant information (noise) and encountering difficulties and delays in obtaining original documents.

The provision of irrelevant information was primarily attributed to users limited abilities to intervene during the retrieval process (their presence during the search was mandatory) and modify the search profile in order to get more refined information, this was diagnosed as a result of shortcomings in computer literacy as some even had difficulties to follow up the retrieval process on the screen also they had English language incompetence and difficulties in rephrasing their request these on top of lack of knowledge in documentary techniques.

Our users were mainly university postgraduate students and educators and scientific researchers, and as it was beyond the Scientific Affairs Office activities and capacities to take any action.
as far as students training is concerned, all that could be done was drawing universities attention to necessity and recent trends and experiences [4, 5, 6] in establishing compulsory courses for education in information retrieval and handling for postgraduate students.

The decision was to begin with organizing a training course for researchers of the Scientific Research Council before establishing scheduling them in the Scientific Affairs Office activities for users on a national level.

2.2 Training Course organization:

Having analysed general user educational requirements and particular response and problems of our users, as well as taking into consideration our information resources and available facilities in terms of trainers and computer terminals, I planned an 18hrs (6hrs Lecture sessions and 12 hrs practical online sessions) agricultural information services course and invited agricultural researchers of scientific Research Council to participate. I was so content when 43 researchers (with PhD, MSc degree) applied for participation.

2.2.1 Contents of the programme:

Lecture 1: Introduction to scientific documentation.

(1hr) Theme of Lecture was information is collected, analysed abstracted, indexed, stored and disseminated in hard copies and computerized databases and databanks and information networks of global proportion.

practical: keyboard functions of computer terminals, access language, command language, selecting keywords,
creating sets and combining them.

Lecture 2: Introduction to user information services provided by

(1 hr) Scientific Affairs Office.

Theme of Lecture was trainees exposure to office's publications, subject coverage of available databases AGRIS, BIOSIS, INSPEC, SDCISDS and SDCMARK (installed on our computer) and CAB ABSTRACTS, CRIS/USDA, FOOD SCIENCE AND TECHNOLOGY ABSTRACTS, FOOD ADLIBRA, AGRIBUSINESS U.S.A, AGRICOLA and AGROCHEMICALS HANDBOOK (available through Dialog - Lockheed). Also where instructed on means of obtaining original documents from personal, national and international sources with special reference to BLDL and the FAO/AGRIS participating centres directory.

practical: use of AGROVOC, INSPEC and CAB Thesauri and BIOSIS

(3 hrs) master index, computer output and Bibliographic descriptors of various databases with special reference to document availability descriptor and author affiliation, ISBN and ISSN numbers in addition to online practice.

Lecture 3: Online search, examples of search profile selecting

(1 hr) keywords using Thesauri, creating sets and combining them using Boolean logic, modifying search profile for restricting or expanding coverage range of literature.

practical: designing search profiles on trainees subjects of interest

(3 hrs) and modifying them for execution on different databases.

Lecture 4: Introduction to information systems.

(1 hr) CDS/ISIS (Computerized documentation service/
Integrated set of information systems as an information storage and retrieval software system for the maintenance, updating and searching of large files of textual and numeric information in online mode. Major files of the software (master file, inverted file and transaction file).

practical: Online practice
(3hrs)

Lecture 5: AGRIS and CARIS agricultural information systems.
(1hr) Detailed description of both systems, input sheets and significance of each field in information retrieval, specific tools for document analysis, samples of national and specialized bibliographies, the objective of this lecture was acquainting trainees with database structure.

practical: Online practice
(3hrs)

Lecture 6: Recent developments in agricultural information services. The lecture reviewed developments in computer and telecommunication technologies in dissemination of agricultural information, national agricultural activities networks and their infrastructure in industrialized countries, laser videodiscs storage and retrieval of full text, CD-ROM databases. The use of intelligent gateway computer to provide ready access to geographically distributed databanks.

practical: Online practice.
(3hrs)
The online practical sessions were supervised by 4 professional online searchers who helped trainees in designing search profiles in specific fields of their interest, using thesauri, online search and reviewing search outputs with them to explain bibliographic descriptors and reasons for obtaining irrelevant records (noise).

2.3. Evaluation of the training course:

A meeting with trainees was held at the end of the training for conducting a mini-survey using a questionnair and an open discussion to be feedback for future online training. The questionnair revealed the following results:

- 96% approved that 18 hrs was sufficient for their training needs.
- 67% suggested an increase in online practical sessions.
- 94% stated that curricula of the programme was very good and they obtained useful amount of knowledge.
- 58% stated that their utilization of online service is bound to increase.
- 97% assessed the course good – excellent.
- 100% have not participate in similar courses before.

The open discussion revealed that the training course created the need to utilize available information service and online service in particular as trainees suggested installation of online terminal in their departments and expressed their wishes to conduct their online searches by themselves, and some approached us for guidance in constructing databases on specific agricultural crops. It must be concluded that the above are healthy signs and that training course achieved its objectives and demolished barriers.
between the scientific researchers and Scientific Affairs Office as an information centre.

REFERENCES


