Using the internet: easier said than done. Information literacy in the library

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Abstract

Since 1993, the CRO library has organized training courses on the use of information resources for the institute staff. However, recently the need to revise the proposals for meeting the educational needs of the scientific and clinical staff has arisen. A practical approach was adopted: planning short weekly lessons focused on practical learning of a single instrument at a time. The course structure included a minimum number of lessons whose attendance was compulsory to be chosen on the basis of individual professional interests of learners. With this approach, all instruments were compared and contextualized within a precise wider documentary search methodology. From the evaluation forms and "narrative" feedback, it has emerged that both courses were perceived as "relevant" for increasing attendants' professional skills and had a positive impact on their professional practice.

Key words: information literacy; knowledge management; internet; libraries, medical; education, continuing.

Background

IFLA defines Information Literacy as the "the adoption of appropriate information behaviour to identify, through whatever channel or medium, information well fitted to information needs, leading to wise and ethical use of information in society" (1). Acquiring and increasing the ability to use information resources consciously is an essential goal for the research, care, treatment and training for professionals working in the oncology field (2, 3). Besides, these skills are necessary to communicate properly with the scientific community and with patients and the public (3, 4). Thanks to the Internet, the documentation process is perceived as a free and easy search for information (5). Nevertheless, this is a limited approach: the need for information arises from a lack of knowledge. Satisfying this need begins with the search for information, but also requires selection, organization and processing steps, and ends only with the attainment of new knowledge in response to an expressed need for information (6-9). The documentation process can thus be divided into three major phases:

1. finding information through the most appropriate sources;

2. organizing and checking the information collected;

3. conceptual processing of information aimed at the production of new knowledge.

Each step requires, in turn, both theoretical knowledge and technical skills and/or specific technologies that traditionally belong to librarians, especially in the context of a library such as the one at CRO, Aviano, both a center for scientific documentation and for laymen and patients education (4, 10, 11). Since 1993, the CRO library has organized training courses on the use of information resources for clinical, medical-technical and scientific institute staff. However, recently the need to revise the educational proposals for meeting the needs of the scientific and clinical staff (who found it difficult to reconcile the time required for one or more courses with their clinical or research activities) has arisen. For this reason, a practical approach was adopted: planning short weekly lessons focused on practical learning of a single instrument at a time. The course structure included a minimum number of lessons whose attendance was compulsory, to be chosen on the basis of individual professional interests. With this approach, all tools were compared and contextualized within a precise wider documentary search methodology.

Objectives

The primary objective of the course was to promote medical technology and scientific CRO resources and tools provided by the library among the clinical, technical-medical and scientific staff as well as the promotion of the cooperative systems the library is part of (Bibliosan, NILDE - Network Inter- librarian

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Document Exchange, SBN - National Library System), although well-known but scarcely used. At the same time, it was also an occasion to promote some useful resources for the process of documentation, which are available on the net for free. The secondary objective was to develop attitudes and skills among clinical, medical technology and scientific CRO staff useful in adopting the correct documentation retrieval for answering a question, solving a problem or making a decision in both clinical and experimental fields. The ultimate goal was the promotion of the role of resources and the use of the library rooms for clinical, medical technology and scientific CRO staff, especially for getting acquainted with the new site of the library, which was planned with special attention for personnel needs and is equipped with a computer room for training and a large, quiet study room.

Materials and methods
"Using the Internet: easier said than done" is a course held in information literacy aimed at the scientific, clinical, health care, medical-technology, and administrative staff in CRO, National Cancer Institute in Aviano, Italy. The course was restricted to a maximum number of 50 participants, eight for each lesson, in order to favor an interactive and personalized approach between teacher and student. If the number of participants exceeded eight, the lesson was repeated in the following days; "Using the Internet: Easier Said than Done" was held in two editions:

- 2012 Edition: June 2012 - November 2012 with 10 compulsory lessons to obtain CME credits and certificate;

- 2013 edition: September 2013 - February 2014 with 12 compulsory lessons to obtain CME credits and certificate.

Both courses were based on weekly nineteen minute lessons, focused on practical learning of an instrument necessary for acquiring documentation. At the end of each lesson, attendants were asked to take a written test to be evaluated by the teacher. All meetings focused on presenting practical resources and tools used specifically in the context of science and health as well as network access and resource pooling in general. In the courses, some fundamental issues of knowledge organization were addressed, including advanced techniques of information retrieval and results filtering; pre- coordinate and post- coordinate indexing systems; differences among keywords, tags, and subjects; difference between research engines and databases. The course was accredited by the regional CME (Continuing Medical Education) program, "training" typology. The participants were required to attend a minimum number of classes to be chosen from the program based on their own professional needs to obtain CME credits and / or a certificate of participation. The lessons were divided into three thematic modules.

Module 1 - Information research
The module aimed at increasing the capacity of learners in the development of advanced research information through the choice of the most appropriate sources and their indexing systems (see Table 1).

Of particular importance is the inclusion in the program of databases dedicated to patients and citizens (Medline

Table 1-"Information Search" module program

2012	2013
Overview of Library Resources	Overview of Library Resources
Search engines	Search engines
PubMed	Open Access Resources
Scopus	PubMed
Psychinfo	Scopus
EBM Databases	Google Scholar
Cinhal	EBM Databases
Bibliosan resources	EBSCO Resources for nurses and psychologists
Pharmacological Databases	Pharmacological Databases
Databases for patients and laymen	Databases for patients and laymen
	Social Network for professionals

Plus, CIGNOweb.it, CISMEF), that are of remarkable scientific value in providing a perspective on the real information needs of laymen (12), but which are rarely taken into account in clinical and scientific fields. The course is influenced by the fact that the library is the central coordinator of the training of the Patient Education & Empowerment aimed at improving communication between medical staff and patients with cancer.

Module 2 - Organization and Information Management
The module aimed at increasing the knowledge of tools and techniques of knowledge management (see Table 2).

Table 2: "Organization and Information Management" module program	
2012	**2013**
Feed RSS	Feed RSS
Reference Manager	Reference Manager
RefWorks e Zotero	RefWorks
Concept maps	Zotero
	Concept maps

Module 3 - Information production
This module is part of already planned training activities included in the annual training plan of the Institute (i.e. writing a scientific paper, making a poster, creating a power point presentation courses). This module was focused on investigating the methods of evaluation of scientific productivity and some current online tools for collaborative writing of documents (see Table 3).

Table 3: "Information Production" module program	
2012	**2013**
Online collaborative writing	Online collaborative writing
Impact Factor	Impact Factor
H-Index	H-Index

RESULTS
The assessment took into account the following indicators:
- the number of attendants in the two editions;
- the number of participants who have not completed the course in both editions;
- the number of CME credits assigned to the programs of the two editions;
- the provenance of attendants.

The procedure for CME requires the attendants to fill out an evaluation form of the activity at the end of the course. At CRO we used an ISO9001: 2008 certificated form provided by the CEA (Center Educational Activities) of the Institute. With this form we assessed the relevance of the activity with respect to the perceived improvement of professional skills; the "perceived educational quality" of the training (content, teaching materials, etc.), the perceived "impact" on professional efficiency (see Table 4).

The results drawn by confronting the data of the two editions included a higher number of attendants in 2013 (+11) and a remarkably lower number of attendants who abandoned the training course (2 in 2013, -30%). While the number of lessons was the same, the number of the compulsory ones was increased: therefore, the number of CME credits assigned changed from eight to ten. The course participants came mainly from the scientific and research fields: +28 % in 2013, reaching 85% of total participants (28 out of 33). The perception of the relevance of the course in improving professional skills showed an increase in the highest score in 2013 (+43%); while "good" -9% and "satisfactory" scores decreased (respectively -9% and -4%). The perceived impact was reported as "effective" (+23%) in 2013, while "good" and "partially effective" decreased (respectively -19% and -4%). Overall, both editions never reported any negative scores.

Conclusions
From the data in the evaluation forms, it can be concluded that both courses were perceived as "relevant" for increasing attendants' professional skills and had a positive impact on their professional practice. The contents were considered appropriate and the course was judged as well structured.

In both editions almost all participants chose a greater number of lessons than the minimum required for obtaining credits, and attended all three modules. The results of the practical tests revealed that they have learned and understood the basic principles of the organization of knowledge management, and how to apply them to the instruments analyzed in the course.In both editions, the participants who completed the training program successfully passed the practical lesson, thus meeting the aims of the course: promoting resource and instruments knowledge and acquiring competence for an effective document search process. Besides the evaluation forms, the perception of the satisfactory impact of the course comes from the frequent requests for assistance in using advanced tools covered in the lessons: these requests were received by the library even several months after the end of the

Table 4 : Indicator comparison years 2013 vs 2012

Criteria		2012	2013	2013 vs 2012
Attendants		22	33	**+11**
Withdrawals		8 (36%)	2 (6%)	**-30%**
CME credits		8	10	**+2**
Provenance	Research staff	16 (57%)	28 (85%)	**+28%**
	Medical staff	3 (11%)	2 (6%)	**-5%**
	Healthcare personell	1 (3%)	0 (0%)	**-3%**
	Technicians	3 (11%)	1 (3%)	**-8%**
	Administrative staff	5 (18%)	2 (6%)	**-12%**
Relevance	Irrilevant	0	0	**0%**
	Scarcely relevant	0	0	**0%**
	Sufficiently relevant	2 (14%)	3 (10%)	**-4%**
	Relevant	8 (57%)	15 (48%)	**-9%**
	Very relevant	4 (29%)	13 (42%)	**+43%**
Training quality	Poor	0	0	**0%**
	Mediocre	0	0	**0%**
	Satisfactory	0	3 (10%)	**+10%**
	Good	10 (71%)	17 (55%)	**-16%**
	Excellent	4 (29%)	11 (35%)	**+6%**
Impact	Ineffective	0	0	**0%**
	Partially effective	0	0	**0%**
	Sufficiently effective	2 (14%)	3 (10%)	**-4 %**
	Effective	10 (72%)	16 (53%)	**-19%**
	Very effective	2 (14%)	11 (37%)	**+23%**

activity. This suggests the acknowledgement of the knowledge and professional skills of CRO librarians and of the library resources.

Some indirect indicators of the effectiveness of the course could be the statistical data on the usage of professional services provided by the library (databases, number of requested document deliveries, etc.) provided by Bibliosan, the national consortium of biomedical libraries of non-university research centers promoted by the Italian Ministry of Health to which the CRO Scientific Library also belongs. It would also be a limited indicator because not all tools covered in the program are part of the resources of the library and may be used freely on the net. These indicators were not examined since at present Bibliosan statistics of access to resources available are updated to the year 2012: it is, therefore, not possible to compare both editions of the course. It must also be considered that this indicator may be the result of many influential variables, including the ever changing number of researchers in the Institute. The decision to focus on short lessons and a modular organization that would allow the creation of a proper study plan has proved successful, especially in terms of general attendance. The critical element is to be found, however, in the low participation of the medical and

health personnel which was probably due to the modular structure of the course. Despite the short duration of each lesson, for medical and health personnel reconciling work schedules with the obligation to attend a minimum number of classes to get a certificate of participation or CME credits, is particularly difficult. The short duration of individual meetings has not permitted details of the functionality of each tool. The future organization of courses in Information Literacy in the library will have to take into account these elements and integrate modular training with frontal training for the advanced use of these instruments. This integrated approach would require an initial assessment of the competences of the attendants. Frontal training could be open to all Institute personnel.

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