Health sciences librarian as an adult trainer

Eirini Tsalapatani
Asklepeio Voula’s General Hospital Health Sciences Library, Athens-Greece

Eleni Kalogeraki
Evangelismos General Hospital Health Sciences Library, Athens-Greece
evalib@med.uoa.gr, ekalog99@yahoo.com

Abstract
The role of the health sciences librarian as it is shaped by the socio-economic conditions, technological developments and specific information needs of health professionals requires knowledge, skills and attitudes combined with communication skills, management and leadership abilities. The modern health sciences librarian seems to be “borrowing” features from the adult qualified instructor who constantly has to adopt roles in a dynamic learning process, and depending on the circumstances he/she becomes facilitator, mediator, counselor, coordinator, introducer, inspirer, specialist, partner and catalyst. Meanwhile, the health sciences librarian should know both the profile of adult learners (either health professionals or medical librarians), and the conditions of the learning process so that it can be effective for adult scientists. This study attempts a theoretical approach of the educational role of health sciences librarians and in particular their role as instructors of adult learners. Required knowledge, skills and attitudes that a medical librarian-adults educator should master are summarized. Eventually, a list of qualifications governed by principles of adult education is formed in order that health sciences libraries provide effective learning.

Keywords: Health sciences librarian, Adult education, Adult educators

Introduction
The rapid technological advances, the continuous trend in health sciences towards specialization, the changes which take place in medical practice and health care in the direction of evidence-based medicine in combination with the objectives of the Information Society (1) have caused significant changes in health science libraries and information services as well as in medical librarians roles and skills. Health sciences library users need information through a dynamic multimedia environment, which requires an appropriate technological infrastructure, added-value information services and training for useful information resources of the library. The changing environment particularly in technology and education is creating expanded educational roles for medical librarians. The new roles require health sciences librarians to be current with new applications of technology and understand the implications of these advances in order to teach information management skills in a meaningful way to users. Therefore, medical librarians have to respond to expanding educational roles acquiring new skills and discipline awareness. For this reason, they seem to borrow
features and skills of the adult educator. The librarian is no longer either "the custodian of information" or "the instructor", but "intermediary" and "facilitator." In other words, he becomes a consultant, coordinator and facilitator for the user, which encourages the user’s heuristic route in order to retrieve the appropriate information.

Furthermore, user education in medical libraries - in order to be effective - should use learning activities designed for adults, which requires investigation of training needs and selection of training methods and educational material. All of the above aspects constitute the discipline of adult education according to experts of this field (3).

**Principles of adult education**

According to the literature review, articles can generally be classified in two broad categories. Those which present and / or evaluate a training program for medical librarians and those which present and / or evaluate a training program for health science library users. Both educational activities are governed by a common element directed towards adult users.

In addition, these programs, either explicitly stated or not, are designed to meet some objectives. The more the objectives are clarified, the easier it is to achieve them. However, we can only know what we have achieved by evaluation.

Therefore, the medical librarian before designing any educational activity should acknowledge the characteristics of adult learners, the conditions of effective adult learning, and the active learning methods and techniques.

According to the adult learning theory (3):

1) Adult learners want to know the relevance of what they learn to what they want to achieve before engaging in the process of learning.
2) They are internally motivated and self-directed (i.e. job satisfaction, self-esteem).
3) Adults bring life experiences and knowledge, such as work related activities and previous education during their learning process. They need to connect learning activities with their knowledge/experience base.
4) They become ready to learn when they have a need to learn in order to cope more effectively with real-life tasks or problems.
5) Adults are practical, focusing on the aspects of lessons useful to them in order to solve a particular problem in their work context.
6) Adults need to be shown respect, acknowledging the experiences that participants bring the classroom, treated as equals in experience and encouraged to express opinions and ideas at every opportunity (4).

Moreover, effective adult learning can be provided when:
1) the curriculum allows training to be learner-centered
2) their active participation is encouraged
3) the learning environment is created by effective communication, partnership and mutual respect (5-9).

In addition, effective learning is ensured by the use of active learning methods and techniques that are preferable to the more traditional, passive lecture approach (10).

Active learning allows trainees to ask questions, to simulate the clinical cases, to combine clinical protocols, to "react" to what they hear during their training. The medical librarian may use learning techniques such as the collaboration of small-user

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1 Intermediary is the person who analyzes the needs of customers (users) and utilizes this knowledge to provide them with specific access to widely distributed sources.

2 The term “heuristic route to knowledge” has been introduced and used by Kokkos.
groups on case studies, in role-playing (suitable for patient education), practice, brainstorming ...etc. in order to encourage user participation in the training process. All the above mentioned points constitute the process we call “mature learning”. What this means is that a user learns in his or her own way and this should be encouraged in every program we design.

The role of modern medical librarian
The role of the medical librarian, as it is shaped by socio-economic conditions, technological developments and specific information needs of health professionals and patients requires knowledge, skills and attitudes, combined with communication skills, management and leadership abilities. The above consideration is ensured by the "Standards for hospital libraries 2007" created by the Medical Library Association (MLA) of U.S. (11-13).

The most important elements that characterize the new roles of medical librarian except for the performance of traditional library work and the development of customized products and services, consist of the roles of the subject specialist librarian, clinical librarian, medical librarian-researcher and medical librarian-educator.

The educational role of the medical librarian
The "Standards of the MLA, 2007" determine the role of the medical librarian as the person who besides performing the traditional library operations manages and accomplishes other functions such as patient education and health personnel education of their Institution.

Regarding the medical and other hospital staff training, Standard 5 of MLA (11-13) includes:

- the active participation of the librarian in the team directing the educational activities of the hospital.
- the provision of guidance in support of planning and preparing educational activities.
- the provision of specific literature in support of educational activities.
- the education of medical and hospital staff on information resources management and the use of information technology.
- the identification of print and electronic resources for individualized learning on topics presented in educational lessons.
- the connection of the library with continuing medical education bodies and provision of access to traditional and Web based continuing medical education resources, teleconferencing and other technologies.

In the U.S. since 1996, health sciences Librarianship curricula have begun to include courses in adult education discipline and investigate distance learning methods for delivering both graduate and continuing education (14). Medical Library Association (MLA) indicates that health information professionals need education in learning theory and teaching techniques in order to be effective evidence educators (15). A Greek survey in 2008 indicated that 59% of hospital libraries provide informal, individualized training to their users, who consist of scientific and medical staff (16).

3 In literature the "capacity" is also referred as "skills" (Kokkos & Lionarakis, 1998), but the term capacity is actually broader and it includes skills (19).
In addition, according to a Greek survey in 2009, Greek health sciences librarians have specific training needs for acquiring teaching and education skills for effective user education (17).

The medical librarian, thus, provides services to users organizing, retrieving and disseminating information in a useful way, enables stakeholders to learn and use resources providing print and electronic material and teaches user information literacy skills in order to enable them the evaluation of the needed information. So, the librarian plays the role of promoter, facilitator and advisor.

Furthermore, he/she should plan user education programs, far from traditional educational methods, such as self-guided exercises, non-traditional classes, problem-based training which are components of the effort to apply more attractive and fresh methods to education (18).

In the above, we identify common characteristics with the skills of adult educator as outlined by experts in the field (6, 8, 9). In particular, Rogers (1999), Coureau (2000) and Noye & Piveteau (1999) describe the adult educator as adopting roles continuously in a dynamic process of learning. Depending on circumstances, the adult educator is described as facilitator, mediator, counselor, coordinator, draftsman, originator, specialist, partner and catalyst.

Meanwhile, to meet the challenges of a dynamically evolving environment, medical librarians must be able to recognize both the characteristics of adult learners (either health professionals or medical librarians) and the learning conditions suitable for adults scientists in order to be effective (each adult group is unique and each group member learns in a different way).

According to the above, there is a need for continuing education of health sciences librarians, both in their field and the adult education field, as they are involved in a constant process of user education with adults.

**Qualifications of health sciences librarian as an adult educator**

Combining the qualifications of health sciences librarian with the qualifications of adult educator, the health science librarian as an adult educator has to

1) In terms of knowledge:
   a) Know in depth the medical Librarianship field as well as the specific areas that he/she will teach (such as databases or information tools relevant to each medical specialty).
   b) Identify the principles and methodology of adult education (i.e. adult characteristics, conditions for effective learning and active learning techniques).
   c) Recognize the group characteristics and dynamics in the context of library training program
   d) Know the principles of effective communication and the processes of evaluation.

2) In terms of abilities:
   a) Design the learning sections according to the methodology of adult education.
   b) Use active learning techniques.
   c) Possess the skills to manage a group of scientists or colleagues who he/she trains.
   d) Be communicative in order to create the conditions for a proper learning environment.
e) Apply the assessment methods for the estimation of the effectiveness of the educational process and self-evaluation.

3) In terms of attitudes:
   a) Accept that his own continuing education and self-understanding provides more effective services to the library.
   b) Encourage and support the users of medical library services.
   c) Promote and implement active and co-operative learning.

**Conclusion**

Librarians and information professionals should respond to new educational roles devoting considerable time to teaching information skills to doctors, nurses and patients (15) using the theories and methods of adult education in order to be effective in their educational role.

A consequence of the above finding is the need for education and training of librarians according to the principles of adult education which should be included both in the curricula of schools of Librarianship and the continuing education programs.

In conclusion, the role of the medical librarian as an adult trainer is not similar to the traditional teacher-directed model but it is described as an intermediary and advisory one, recognizing the user needs.

**REFERENCES**


