Developing a culture of lifelong learning in a library environment*

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Between 1995 and 1996, the Annette and Irwin Eskind Biomedical Library (EBL) at Vanderbilt University Medical Center (VUMC) radically revised the model of service it provides to the VUMC community. An in-depth training program was developed for librarians, who began to migrate to clinical settings and establish clinical librarianship and information brokerage services beyond the library's walls. To ensure that excellent service would continue *within* the library, EBL's training program was adapted for library assistants, providing them with access to information about a wide variety of work roles and processes over a four to eight-month training period. Concurrently, customer service areas were reorganized so that any question—whether reference or circulation—could be answered at any of four service points, eliminating the practice of passing customers from person to person between the reference and circulation desks. To provide an incentive for highly trained library assistants to remain at EBL, management and library assistants worked together to redesign the career pathway based on defined stages of achievement, self-directed participation in library-wide projects, and demonstrated commitment to lifelong learning. Education and training were the fundamental principles at the center of all this activity.

INTRODUCTION

This paper describes the development of a training program for library professionals at the Eskind Biomedical Library (EBL), Vanderbilt University Medical Center (VUMC). While the program provides training for both library assistants and librarians, this paper concentrates primarily on the library assistant component. Adequate, broad-based training is perhaps the most effective tool a staff member has in interacting successfully with patrons. The time spent training is also an important opportunity for librarians, administrators, and technical personnel to assess the capabilities of library assistants, to get to know them per-

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sonally, and to impart critical information. Creating an institutional culture of lifelong learning for employees at all levels is part of EBL's strategic effort to increase the library's visibility and impact throughout the medical center. As library assistants' skills and knowledge increase, librarians are able to devote more time to high-level clinical and research projects beyond the library's walls.

TRAINING AND DUTY ASSIGNMENTS FOR LIBRARY ASSISTANTS

In 1967, the Medical Library Association (MLA) commissioned the Ad-Hoc Committee on Standards for Medical Library Technician Training, which in 1970 was chartered as the Standing Committee on Medical Library Technicians (currently the Health Sciences Library Technicians Committee) [1]. This standing committee was, and still is, primarily associated with establishing educational standards and training programs for health sciences library paraprofessionals [2]. In that same year, the American Library Association formally defined the paraprofessional job category and described the duties associated with it [3]. Soon afterward, numerous programs sprang up in community and technical colleges offering associate's degrees in library technician studies [4]. According to a 1976 survey of health sciences library technicians conducted by Roper and colleagues, very few paraprofessionals pursued such specialized associate's degrees. The survey also found that the vast majority of library training continued to take place on the job [5].

Ninety-seven percent of the respondents to the above-mentioned survey held post-high school degrees, suggesting that library assistants as a group have a fairly high degree of formal education [6]. With proper training, library assistants could be expected to handle most clients' reference questions, thus freeing librarians to concentrate on more formal, theoretical, research-based, or strategic matters essential to the functioning of the library itself [7]. According to Makinen and Speer's 1993 report on a study of duty assignments in academic health sciences libraries, library assistants performed complex and supervisory duties in every division included in the study, often holding positions "that once were considered professional" [8]. Makinen and Speer concluded that this trend was the possible result of technology, citing Veaner's premise that "complex duties are driven downward in the work hierarchy" with technological innovation [9]. At the current pace of technological change, this conclusion suggests that libraries will allocate increasingly complex duties to library assistants.

According to the Makinen and Speer study, the interlibrary loan and document delivery divisions assigned the highest percentage of paraprofessionals to perform complex duties; reference and database search services were far less likely to assign such duties to paraprofessionals [10]. However, the Louise Darling Biomedical Library at the University of California Los Angeles (UCLA) reported positive results with library assistants from various non-reference divisions at the reference desk, where they work alongside librarians [11]. According to that report, only a small number of the questions received at the reference desk required the skills of a professional librarian. Concerns and trouble spots included "levels of service, quality control, time commitments, and scheduling" [12]. Despite these concerns, using library assistants at the reference desk has freed professional librarians at the Louise Darling Biomedical Library to pursue other projects [13].

The pressing need for librarians to pursue new roles and responsibilities has been stated repeatedly from many quarters, most notably in MLA's *Platform for Change* [14]. In response, the National Library of Medicine (NLM) in 1995 provided funding to seven institutions—including the Eskind Biomedical Library—to develop a training program for health sciences librarians that would promote and foster new roles. Grant investigators at the EBL concentrated on training librarians to work effectively in clinical and research settings beyond the library's walls [15]. However, such a migration had the potential to leave a void within the library, which could lower the quality of service offered to library users as well as damage librarians' credibility and effectiveness in other settings. This factor led the leadership at EBL to modify the librarian training program for library assistants. Eskind's leadership envisioned this process as raising the standard library-wide in terms of the level of knowledge and service expected of all staff members. Such a sweeping commitment to training required a receptive environment that could support and develop a strong institutional culture of training and lifelong learning.

TRAINING AND ORGANIZATIONAL CULTURE

In recent years, much attention has been paid to the need to focus on the *context* rather than the *content* of library education programs, largely because content—the particular technical skill-set expected of information professionals—changes so rapidly [16, 17]. In his 1993 paper, "Beyond the classroom: self direction in professional learning," Mayfield discusses the mismatch between conventional approaches to training and skill development and the "complexity, uncertainness, instability, uniqueness and value conflicts" inherent in professional work [18]. Mayfield summarizes the implications for effective professional learning as follows:

- "the learner needs models to understand a wide variety of environments, methods of inquiry, situational diagnosis, and relationship building;"

- "a program that limits activities to one setting . . . and to one role . . . can hardly be expected to generate competencies applicable to changing circumstances"; and
- "the assessment of competence should occur in a variety of professional settings or in situations that simulate them closely" [19].

Many employers and educators have seen the workplace as the ideal context in which to develop not only skills, but also successful lifelong learning habits [20]. Research into experiential education has shown that the success of work-based training programs often lies in the particular character of the institution and the ease with which an "outsider" (whether a trainee, new hire, or coworker from a different department or division) can discover how information flows from one area to another, and the transformations and processes that occur along the way [21]. Institutions have different styles of gathering, creating, disseminating, and using information and knowledge, and different ways of dividing those functions among employees. Even within the same institution, individual departments may radically differ in how open or closed their processes are to the outsider.

Software Engineer Ullman, in her book about work processes in the modern computing industry, gave a vivid example of how rigidly defined work roles inhibit learning. Ullman described her interaction with the customer service representative for a company selling laptop computers, in which the representative could not tell her what the product looked like because he had never seen it: "He [worked] . . . 15,000 miles from where [the product was designed and assembled] . . . . He could not get up and hunt around for the missing information; he was not allowed to get up at all. He would never learn anything about the company in Japan, about laptop computers, about the local distributor, even about the process of telemarketing. There would be no better job at this company than the one he had right now: sitting at the computer monitor, wearing a headset, answering the phone. He could stay or leave. His computer was up or down. Between those poles there was nothing" [22]. In this case, not only was professional learning impossible, but the rigidity of the representative's work role actually hindered his ability to do his job—to sell the product.

In general, the less rigidly hierarchical an organization is, the more open it is to learning and transferring information among different divisions. Flattened hierarchies are one way to make the barriers among different divisions more permeable, allowing a kind of institutional cross-pollination of ideas and processes [23]. This arrangement does not mean that an organization has to be completely "flat" in order to learn and promote a culture of professional development. Such a culture is compatible with strong, thoughtful leadership, whether in a hierarchical or non-hierarchical management paradigm [24]. As Mayfield states, "insofar as organizational structure and behavior condition professional inquiry, they make up the 'learning system' of the organization, strongly influencing the scope and direction of professional learning" [25].

Approaches to education and training that promote self-directed learning have been effective in providing learners not only with explicit skills, but also with a framework for developing the habits of lifelong learning [26]. Self-directed learning is the formal or informal process of identifying personal learning needs (usually based on experience in the field), selecting resources, setting timelines, and evaluating learning in a problem-based, practice-oriented setting [27]. Practical, detailed learning plans (sometimes called learning contracts) allow learners to work with supervisors and mentors to plan the goals, strategies, resources, and evaluation methods of a self-directed learning experience.

Self-directed learning programs lend themselves to portfolio-based review, a commonly practiced method of evaluating trainee performance both in traditional educational institutions and in the workplace. A portfolio can include a variety of materials that demonstrate the results of assigned work as well as trainee-initiated projects. Depending on the individual, a portfolio can range in scope and complexity from a single manila folder to an entire Web site, and can include anything from a redesigned paper form to an automated online database. Work portfolios can also include items documenting the learning process, such as research notes, reflection statements, and learning journals [28]. Certificates of completion of various courses, such as computer courses, are commonly included as well. By using portfolios, employers and educators can look beyond the static skills associated with traditional evaluation tools to gain information about an employee's personal characteristics, such as creativity, problem solving, and initiative [29].

REORGANIZATION AND TRAINING AT ESKIND BIOMEDICAL LIBRARY

Between 1995 and 1996, the Eskind Biomedical Library radically revised its model of service to the VUMC community, concentrating especially on expanding the librarian's influence and prestige in clinical and research settings. The migration of highly trained, medically knowledgeable librarians into clinical settings became one of the institution's primary strategies for increasing the level of service to library constituents [30]. To allow librarians to tackle new roles in the medical center, processes at many levels were re-engineered, including the day-to-day routines and services provided by library assistants.

In April 1996, in response to efforts by the larger VUMC community to re-evaluate processes in light of

an increased commitment to customer service, Eskind Biomedical Library examined staffing patterns at public service points, barriers encountered by users, and efficiency of use of librarians' time [31]. To address issues uncovered by this investigation, the library developed a new customer-focused service model that included these key concepts: (1) The traditional separate circulation and reference desks, staffed by members of separate divisions, would be replaced by a flexible team covering four library-wide service points. Library assistants would staff three service points, with the fourth covered part-time by an information services librarian. Service point work would be shared among all divisions and involve as many staff at all levels as possible. (2) Customers would no longer be passed from person to person. The first staff member with whom a customer dealt owned that customer's need; if unable to answer a question or otherwise provide effective service, the staff member would seek out a colleague who could and, whenever possible, would remain with the customer to observe the entire transaction. Thus, staff would learn from each other and from librarians with every customer interaction. (3) The model's success required an exceptionally well-trained staff of library assistants with a broad understanding of library functions.

EBL's existing training program for librarians had been in place since January 1996. Between April and October 1996, researchers modified the program for library assistants, adding more structure, defining a succession of learning tasks, and setting up uniform training procedures. A two-tiered system of training resulted: one for librarians, another for library assistants. For librarians and interns, the training program is self-directed and project-oriented, with a focus on experiences in clinical and research environments. For library assistants, training stresses defined learning goals and a high level of trainer oversight, with learning outcomes measured through trainer-designed evaluations. In some cases, the two tiers overlap, as when a newly hired librarian intern attends appropriate introductory modules designed for library assistants, or when experienced library assistants join high-level modules intended for librarians. In all cases, learning experiences are ongoing and supported by a library-wide network of trainers and training procedures. Everyone in the library, regardless of their level of responsibility, is continually in training.

In early 1998, the library reorganized traditional divisions and departments into several focus areas, many of which concentrated not on physical locations, but on new projects and ongoing initiatives, including collection development, clinical informatics consult services, patient information services, and many others. Librarians who had previously served almost exclusively as department heads and managers were repositioned as focus area coordinators. The emphasis of their responsibilities was shifted toward development of information products and services, outreach, and other high-profile projects.

TRAINING PROGRAM STRUCTURE

The remainder of this paper discusses the structure of the training program for library assistants at EBL. This discussion is divided into four parts: Personnel, Modules, Evaluation, and Promotion Pathway. The Personnel section discusses the division of duties among various groups involved in training, including the program director, training team, trainers, and trainees. The Modules section gives an overview of the types of training modules offered through this program. The Evaluation section covers the methods used to measure trainee progress. Finally, the Promotion Pathway section discusses the professional development incentives provided to guide the careers of highly motivated library assistants.

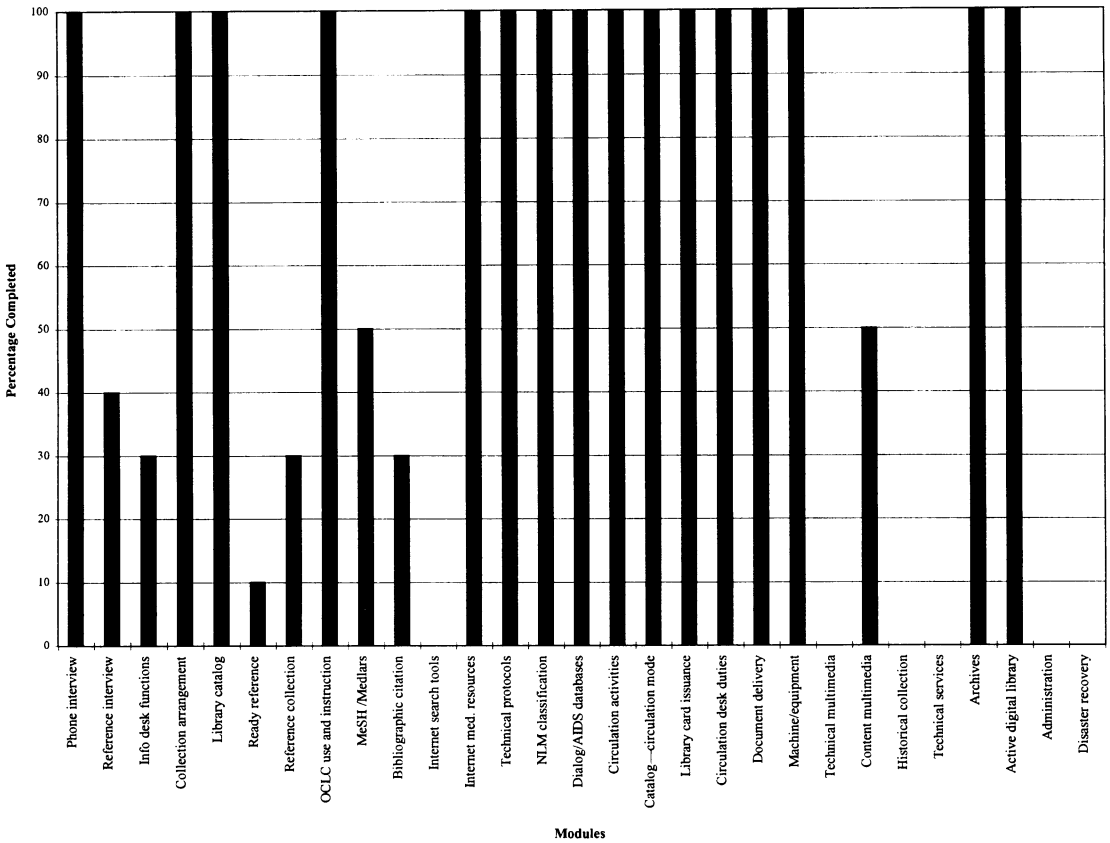
EBL employs forty-three full-time staff members, including eleven librarians; nineteen health information analysts or HIAs (the job title held by library assistants at EBL); and thirteen administrative, technical, clerical, and research staff members. Training for HIAs began in October 1996 with three trainees—two newly hired HIAs and one HIA who had been with the library for over a year. Each HIA was allowed ten hours per week to attend modules and complete follow-up assignments. Trainees were encouraged to work at their own pace. Coverage for this level of training time required an analysis of existing staffing patterns, entrance statistics, and other data. Based on this analysis, the library added one full-time HIA to the staff, shifted some responsibilities, and streamlined processes.

Personnel

Almost everyone in the library became involved in training, whether as a trainee, trainer, or member of the group that planned and directed overall training efforts. The following is a brief description of the work done by each group:

- Program director: Initially, the program director developed the program, guided its implementation, and participated in all decisions about who would be responsible for training. In an ongoing capacity, the program director remains involved in training-related standing meetings, maintains an open-door policy to everyone involved in training, and personally teaches an advanced training module. Teaching the module allows the director to assess each individual's progress in crucial areas. This assessment involves a final role-playing interview and walk through the library, in which trainees must demonstrate their familiarity with library resources and ability to handle difficult reference requests. The director's assessment ensures that

Figure 1
Current status of training for HIA 1 (June 3, 1997–October 6, 1997)



The Training Team uses graphs like this to keep track of each trainee's progress. This example shows that HIA #1 has completed the Phone Interview Module, has not begun the Internet Search Tools Module, and is about halfway finished with MeSH/Medlars training. It also shows how much HIA #1 has accomplished after five months of training (June–October). Trainers provide this information (verbally or by e-mail) to the training team coordinator, who updates each graph and distributes them at the next training team meeting.

high standards of service are maintained, and allows the director to gauge each trainee's potential for further growth and development.

- Training team: Led by the program director, the training team includes a cross-section of representatives from key library focus areas. To keep meetings manageable and brisk, membership is limited to six to eight people, from focus area coordinators to library assistants. The group also includes a program assistant in the role of training team coordinator, who helps communicate decisions to the rest of the library and assists in carrying out some of the group's directives. The standing training team meetings are open to anyone who wants to attend and serve as a formal channel of communication for everyone involved in training. Most of the members of the training team are longtime employees of the library who understand the routines, patterns, and needs of its customers and who are aware of their colleagues' talents and areas of expertise.

The training team works to form broad strategies and outlines for the program. The group decides the sequence in which HIAs will participate, articulates the specific areas in which training is needed (for example, ready reference, bibliographic citation, catalog searching, reference interview, etc.), and recommends appropriate trainers to design and conduct modules in each area. Behind the scenes, the training team monitors each trainee's progress through the modules (Figure 1). If trainees proceed at a significantly slower pace than their peers, a member of the training team investigates whether institutional impediments prevent the employees from devoting adequate time to training. If so, resources are reallocated and workloads shifted to accommodate training objectives.

The training team's workload has changed dramat-

ically over time. Initially, the group met once a week. After six months, when processes and roles were defined and training was well underway, meetings dwindled to twice a month. Currently, the training team meets once a month.

■ Trainers: The training team identified several trainers to design modules in the following ways: (1) mapping the module's objectives and tasks to specific skills, (2) choosing appropriate resources (books, people to lead tours or conduct simulations, etc.), (3) identifying appropriate training strategies (mock interviews, simulations, group or individual projects, etc.), (4) determining appropriate methods of verifying that the training was completed successfully, and (5) planning for future training updates and skill enhancements. Trainers also develop detailed curricula and evaluation criteria, which are provided to trainees at the first formal training session. The program director reviews all training designs and curricula, sometimes suggesting modifications. Trainers are asked to set aside two or three hours each week when they will make themselves available to meet with HIAs for training. The trainers are responsible for informing the training coordinator about how far along the trainee is in the module, so that the trainee's progress can be graphed (Figure 1). If more than one trainer is assigned to teach a given module, one of them is given overall responsibility for designing the module and delegating its duties.

One advantage of a work-based training program is that trainers "are what they teach." Health information analysts learning to construct efficient searches or to understand the MeSH terminology are trained by experienced reference librarians; those HIAs learning about networks and systems are trained by a systems librarian; a technical services librarian conducts training in the NLM classification scheme; researchers who work extensively in the medical field provide information on subject-specific, health-related content; Web developers lead sessions on the shape and structure of the Web; and health information analysts themselves train their peers in circulation policies and procedures. In this way, trainees are exposed to the variety of roles and procedures within the library, and have the opportunity to develop relationships with many colleagues on whom they can call for assistance in dealing with patrons or other library issues. This level of institutionally supported, cross-focus-area interaction among staff has been one of the primary ways Eskind has hoped to put in place an organizational culture in which the flow of work and information throughout the library would be made visible to staff at all levels.

■ Trainees: To accommodate training for a staff of nineteen HIAs, the program is designed to proceed on a rolling basis: as trainees complete the program, more are added. At any given time, there have been as few as three or as many as eight people in training. Trainees finish the program at different times, depending upon their workload, their initiative, and the amount of time their supervisors can allot for independent study.

When first joining the training program, each trainee meets individually with the program director and receives a folder containing the following items (most of which can be viewed online‡): a self-evaluation form; a detailed learning plan containing explicit goals, resources, strategies, and evaluation criteria for every training module (Figure 2); a trainee profile form on which trainees can list previous experience and education; and a schedule matrix showing the times and days each trainer is available for training. This folder serves as the basis for the portfolios and includes copies of the trainees' resumes and any certificates for work-related courses or other outside professional development trainees pursue on their own (the portfolio is also used in yearly employee reviews). Trainees are responsible for contacting trainers to arrange sessions, for keeping track of their own progress independently of the record-keeping done by the training team, and for communicating any concerns to members of the training team.

Modules

Specific training modules are designed by trainers in collaboration with the program director. Because structure is necessary to achieve the level of education, training, and skill-transfer required in this program, trainees are not initially involved in setting training goals, selecting resources, or determining evaluation methods. However, planners wanted to expose trainees to the tools and strategies involved in planning a course of self-directed learning. Therefore, modules have been structured along the lines of a learning plan (Figure 2). The program allows for continued professional development beyond completion of the initial training modules, when graduated trainees have the opportunity to design their own learning plans. Table 1 shows an example of the modules currently offered in Eskind's training program, and describes the duration of each. Trainees are initially assigned a subset of these modules that constitute their own learning plans.

Originally, because the program grew out of a specific need to cross-train library assistants who worked in public service areas, modules and learning plans were developed for those areas alone. However, as the training program was opened to employees in non-public areas, trainees gained the opportunity to take a more flexible approach to selecting their modules. While all trainees must com-

‡ The online folder is available at http://www.mc.vanderbilt.edu/ebl/training/.

Figure 2
Sample learning plan for paraprofessional training*

Step 1	Step 2: identify targeted skills		Step 3	Step 4	Step 5
Identify the training module's main objective.	**General skills:** List all relevant skills from the pre-evaluation form.	**Module-specific competencies:** List any additional competencies not included in pre-evaluation form.	**Resources and strategies for completing the objectives/tasks.**	**Evidence that the objective/task is completed.**	**Verification that the objective/task is completed.**
Ready reference (RR) & reference collections:					
Gain in-depth knowledge of the RR, reference, and other collections.	Info needs/info seeking behavior; ___ Print resources; ___ Organization of info; ___ Medical terminology/concepts; ___ Organization of health sciences literature; ___ Initiative; ___ Motivation; ___ Organization; ___ Patience; ___ Willingness to learn; ___ .	Develop an awareness of library resources in RR, reference, and other collections to refer users when their questions can be answered with these tools.	Trainer = information and education services librarian** Become familiar with RR, reference, and other collections by constructing bibliographies targeted for client use; Read the annotated bibliography on the RR collection. Discuss the collection with colleagues, answer questions about the collection, and discuss strategies for answering patrons' questions.	Trainees will be able to answer RR questions quickly and accurately, recognize RR holdings by sight and title, and provide clients with appropriate tools for their needs.	Trainers will listen to and observe trainee interactions with patrons and verify the correctness of trainee search process and referring strategies. Trainees will produce high quality bibliographies for patron use.
Bibliographic citation					
Gain a basic understanding of how bibliographies are structured and the formats most often used in an academic health care environment.	Information retrieval techniques; ___ Information delivery methods; ___ Written communications; ___ Adaptability; ___ Analytic ability/problem solving; ___ Common sense; ___ Organization; ___ Patience; ___ Planning; ___ Willingness to learn; ___ .	Gain familiarity with citation styles and resources, in order to assist users seeking information about publishing or formatting their work. Learn how to successfully verify bibliographic citations for clients.	Trainer = information and education services librarian* Handouts on instructions to authors, publication types, and style. Examples will be provided by the trainer. Resources available in the library will also be used to complete this module, particularly style guides.	Trainees will recognize different bibliographic styles, including (but not necessarily limited to) APA, AMA, NLM, Vancouver, CBE, and MLA. Trainees will complete a bibliographic exercise provided by the trainer, and participate in a follow-up discussion.	Completed exercise and follow-up discussion will illustrate and convey a basic understanding of various bibliographic styles and citation methods.

* This worksheet was adapted from materials in: Knowles M. Using learning contracts. San Francisco, CA: Jossey Bass, 1986.
** Normally, this space would contain simply the name, rather than the position or title, of the trainer.

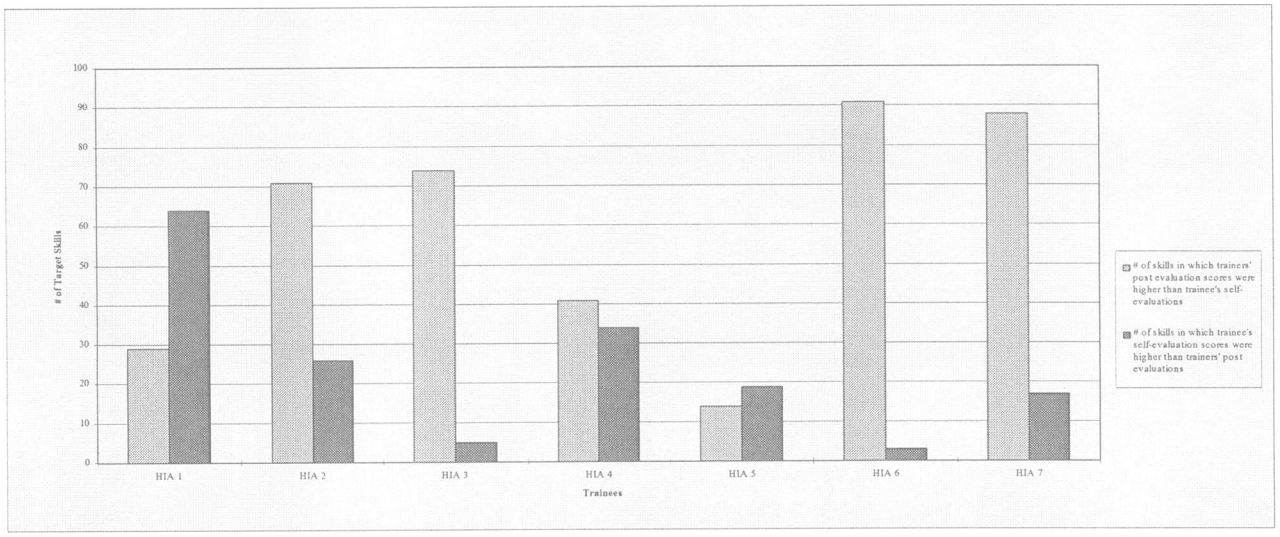
Table 1
Examples of Eskind Biomedical Library training modules

Module area	Module name	Duration
Service points 1–4	Reference interview	SUS
	Telephone interview	L
	Information desk functions	M
	Collection arrangement	S
	Library catalog: user (Web) interface & staff interface	M
	Ready reference & reference collection	SUS
	MEDLINE use and instruction	L
	Bibliographic citation	M
	Internet searching & medical resources	M
	Technical protocols	M
	NLM classification	S
	Dialog/AIDS databases	S
	Circulation activities	SUS
	Library catalog—circulation mode	S
	Library card issuance	M
	Circulation desk duties	M
	DDS transactions	S
	Copyright	M
	Machine/equipment support	S
	Multimedia workstation	M
Archives	Archival processing techniques	SUS
	Archives research and reference	SUS
Technical services	Technical services	SUS
	Acquisitions	SUS
	Receiving	SUS
	Bibliographic control	SUS
	Processing	SUS
Historical collections	Historical collections reference sources	M
	VUMC history	M
	Historical collections reference interview	M
	Conservation techniques	M
	Overview of rare book cataloging	M
	Overview of main library special collections and archives	M
Overviews	Disaster readiness	M
	Historical collections overview	S
	Technical services overview	L
	Archives overview	M
	Web development area overview	S
	Administration overview	M
	Service point 1–4 overview	M
Expert level	Clinical medical librarianship	SUS
	Information filtering	SUS
	Dialog	SUS
	Digital libraries	SUS

Duration key: S = short: no more than one to two hours of training, with a minimum of homework. Usually introductory or overview modules. M = medium: up to six hours of training, with two to four hours of homework. Can lead to further self-study in a specific area, or may involve a detailed procedural introduction to areas where trainees will acquire more expertise through continued practice. L = long: six or more hours of training or four hours of homework. Trainees develop a comprehensive understanding of a specific domain. Trainees should begin long modules early in their training effort. SUS = sustained: three to six months of in-depth training designed to impart expert-level knowledge and skills in the specified area. Sustained modules often span the entire duration of a training effort; consequently, trainees should begin these modules first.

plete a core set of modules aimed at fostering specific competencies associated with their job responsibilities, they may now choose up to ten modules that reflect their own interests and abilities. In addition, new modules are frequently added to this list as the library's needs and interests change. For example, an HIA in technical services who is interested in developing an expertise in document preservation has begun creating a module in this area; another HIA who is willing to become an expert in copyright will design and teach a copyright module. Existing modules frequently are updated as trainers become aware of new developments. HIAs who have finished training attend refresher courses and newly developed modules as part of their ongoing professional development plan.

Figure 3
Trainer versus trainee post-training evaluations.



This chart compares trainers' post-evaluation scores with trainees' self-evaluation scores. In most cases, trainers had a higher assessment of trainees' skills than trainees themselves did.

Evaluation

The program director and trainers work together to develop objective measures of learning for each module. Trainees must show that they can produce correct written answers and information-seeking strategies for sample ready reference questions, select and annotate high-quality Web sites in a particular area (AIDS, breast cancer, diabetes) and for a particular population (residents, attendings, patients), ask the right questions in mock role-playing interviews, prepare bibliographies, and perform many other evaluation tasks appropriate to the particular module. When they have completed all assigned modules and module-specific evaluations, trainees walk through the library with the training program director, where they must respond in detail to on-the-spot questions about the function of various focus areas.

The program also uses trainee self-assessment surveys both before and after training. Self-assessment surveys have been used to evaluate library paraprofessionals in other cross-training situations, notably at UCLA's Louise Darling Biomedical Library [32]. Self-assessment has some obvious limitations, particularly the tendency of novices to overestimate their abilities [33]. For adult learners, however, self-assessment provides a crucial opportunity to reflect on what has been learned. EBL's program utilizes a pre-evaluation in which trainees are asked to rate themselves in ninety-six knowledge and skill areas [34]. Upon completion of the program, trainees are asked to re-evaluate their performance in the same skills. At this time, trainers also rate the trainee in each of several target skills defined for their particular module. Figure 3 shows a comparison of trainers' and trainees' post-training skill assessments. In most cases, trainers had a higher assessment of trainees' skills than trainees themselves did. This situation suggests that, while HIAs can perform well in their new roles, they retain a modest assessment of their own skills and a realistic view of what true mastery and competence entail.

Promotional pathway

Because employee buy-in is crucial to the success of large-scale training initiatives, the promotion pathway at Eskind has been linked to completion of successive levels of training. The promotion pathway was developed by a team of library administrators, health information analysts, and members of the Division of Biomedical Informatics, and was based on the academic peer review model commonly used for faculty promotion. The team has worked with the Human Resources Department to ensure that the pathway would be based on skill acquisition rather than solely on job responsibilities, creating a structure for promotion unique within VUMC [35]. To advance from an HIA I to an HIA II position, employees need to complete the training modules specific to their primary focus area, as well as the organizational overview modules required for all library employees. In addition, employees must select a new learning plan, either by using

an existing in-depth plan from another focus area, or by combining different modules into a customized plan. Learning plan designs are subject to training team approval.

To advance from an HIA II to an HIA III, employees must complete additional cross-training, create or revise a training module in their area of expertise, serve as a trainer for one or more modules, and lead or coordinate a mentored project that results in a significant positive outcome. As they move through successive levels of training, HIAs are encouraged to work with mentors to develop their own learning plans and design their own training experiences. Although completion of successive levels of training is not the only criteria for promotion, training is crucial for developing an awareness of library issues and an understanding of the needs of different focus areas. This process increases the potential value to the institution of all employees, not only through the levels of training they can pursue, but in the institution's ability to recognize, promote, and benefit from the talents of motivated, intelligent individuals at all levels. For employees, the tangible benefits include a pay raise at each promotion level, as well as the opportunity to participate in, and even design, challenging projects throughout the library.

DISCUSSION

There were many interrelated issues involved in developing new models of service on this scale. While providing better customer service was an important reason to begin such a program, EBL's primary motivation was to allow librarians to concentrate on projects in clinical and research areas, thus fulfilling organizational objectives developed in 1995 for increasing librarians' presence in the VUMC community [36]. In the first year of this program's implementation at EBL, desk hours for reference librarians decreased from an average of twenty hours per librarian per week to a current average of four hours per week. That time has not been absorbed by increased management duties; instead, such duties were divided more evenly among librarians, all of whom now serve as focus area coordinators. This division has allowed librarians who were previously involved almost exclusively in management to devote their time and skills to new projects. In addition, junior librarians and interns who previously had no project or management experience have become involved in coordinating high-profile activities much earlier in their careers than they expected. These changes have allowed librarians to spend more time doing what they were trained to do: collect, arrange, design, and deliver information resources for specific populations. The current culture—for both librarians and HIAs—is based less on hierarchical position and more on project involvement and skill acquisition. This culture means that librarians have a vested interest in increasing their own skills and those of the HIAs who work in their areas. As HIAs' skills increase, they become responsible for more complex functions within the library's walls, and librarians are given more time and freedom to pursue truly progressive projects in the medical center.

Readers interested in adopting a similar model need to be aware of several institutional factors on which the success of any large training effort may hinge. This program requires the energy and commitment of a motivated leader (or group) with the ability to mobilize resources and people on a large scale. Because cross-focus-area training is an important aspect of this program, the library at large—and not just one or two areas—needs to buy into and actively support the training effort. Support in this case means more than verbally agreeing with the program's tenets; it means hard work. Trainers need to design and teach training modules; coordinators need to rearrange schedules; and trainees need to study. The leadership must create support for these changes by showing that not only library assistants, but all employees, at all levels, benefit from an upward migration of skills, an increased commitment to professionalism, and a dynamic institutional culture. In addition to this overall support, a program with this level of detail requires at least part-time help from a coordinator who can reliably carry out the program's directives, communicate among various groups, and keep up with the substantial record-keeping involved.

CONCLUSION

More and more, librarians are under pressure to seek new roles and explore information needs and service opportunities in the field. From a standpoint of service to users as well as the imperative for librarians to explore new ground, libraries simply cannot afford to underutilize the talents of library assistants. A structured training program that combines organizational commitment with tangible rewards for employee initiative has been successful in increasing overall skill levels throughout the Eskind Biomedical Library. In response to this increase in skills, EBL's training program has become more in-depth over time as trainers add new content and new levels of complexity. In the future, researchers and trainers at EBL plan to provide more specific information about these training modules, both in print publications and online. A training Web site is currently under construction.

Comments posted in the library's client-feedback notebook have reflected extremely positive experiences and a high level of satisfaction with services provided by HIAs. Certain HIAs have proven themselves highly capable of learning and adapting to professional standards of practice. A plan is underway to provide more

training to these employees, eventually allowing them to replace librarians at the reference desk altogether. Far from relegating professional librarians solely to managerial positions, the leadership at EBL expects—indeed, mandates—that librarians take up new roles in the medical center by developing and delivering information products and services targeted to the clinical, research, and patient communities. At the same time, ongoing training for HIAs will help ensure that service within the library remains at the level clients have come to expect.

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