
The Blind Man Describes the Elephant: The Training Gaps Analysis for Librarians and Library Technicians

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ABSTRACT

The Training Gaps Analysis for Librarians and Library Technicians (TGA), research completed by the 8Rs Research Team in 2006, built upon the earlier work of the team, *The Future of Human Resources in Canadian Libraries* (8Rs Research Team, 2005). The TGA published descriptive statistics on perspectives on education from current MLIS and library and information technology students, new librarians, and library technicians (those with under six years' experience), educators, and employers; the resulting publication created a snapshot of stakeholders' satisfaction with entry-level education and continuing professional development in the field. This article will review the major findings from the TGA, identifying areas for further communication and collaboration in order to enhance Canadian LIS education outcomes.

INTRODUCTION

The Canadian Library Human Resources Study, published in 2005 under the title, *The Future of Human Resources in Canadian Libraries*, served as the first major study of the changes and challenges being experienced in the field regarding staffing capacities and needs. With data from 461 institutional respondents and 4,497 individual survey respondents, the study addressed what had been noted as a "dearth of statistics examining the way in which the [library] profession is changing" (Statistics Canada, 2000).

And yet, as with all research, regardless of how much is learned, the researchers are left with many more questions. Sivak and De Long (2009) note that *The Future of Human Resources in Canadian Libraries* provided a view of Canadian library organizations and Canadian library workers with

respect to the majority of the issues (Rs) under study: recruitment, retirement, retention, remuneration, repatriation, and rejuvenation (professional development). Outstanding questions from the study's original scope included those surrounding reaccreditation (entry-level library education) and restructuring (how library organizations responded to a changing human resource landscape).

It was fortunate, then, that the Canadian Library Association proposed a study of library education for librarians and library technicians to the Cultural Human Resources Council (CHRC), a Canadian sectoral council that coordinates research and creates resources for those working in the cultural sector (which, in Canada, includes libraries). The CHRC commissioned the resulting TGA with funding from the Government of Canada's Sector Council Program. The 8Rs Research Team was the successful respondent to CHRC's Request for Proposals, and embarked upon a second research project to investigate the match between educational and professional development offerings, and the perceived needs of students, librarians and library technicians, and organizations.

The purpose of the TGA was to investigate questions around library education-industry match, both for professionals (master's level programs, resulting in the MLIS degree) and for paraprofessionals (college library technician programs, resulting in the Library and Information Technology diploma¹). The study examined central questions of library education, primarily how the competencies articulated by library employers were being met by educational programs. In addition to profiling current students and recent graduates, the report includes an analysis of library programs, student satisfaction and career interests, and accessibility issues to library education. This article will review the major findings from the TGA, identifying areas for further communication and collaboration in order to enhance Canadian LIS education outcomes.

METHODS

The 8Rs Research Team drew upon five different data sources for the study.² First, the research team conducted a review of Canadian online curriculum and professional development offerings, as well as overall program information on Master of Library and Information Studies (MLIS) and Library and Information Technology (LIT) program websites in January 2006. The researchers then repurposed data that had been collected from employers in June 2003, regarding professional librarian competencies and education; statistics from these data had originally been published in *The Future of Human Resources in Canadian Libraries*, and was titled the "Phase I Employers' Survey" in the context of the TGA. In order to collect data regarding library technician competencies, and employers' satisfaction with LIT education, the researchers surveyed fifty-eight employers in December 2005 (Phase II Employers' Survey). The team

collected qualitative data from in-depth telephone interviews with seven deans/directors from MLIS programs and sixteen LIT program heads. In February 2006, a census was conducted of students in MLIS and LIT students via Web survey, with a total response of 857. Finally, the team repurposed data from the June/July 2004 survey of professional librarians and paraprofessional staff, focusing on the responses from those individuals with five years or less working as librarians or library technicians. Detail on each of these data sources follows.

Employers' Surveys

Employers were surveyed at two points. Conducted in June 2003, Phase I was a major survey of employers with the completion of a written mail-out survey by library administrations from academic, public, and special library systems. The major focus of the Phase I survey was to gather information on professional librarian staff; Phase II was conducted in December 2005, and was an abbreviated survey of employers distributed via e-mail designed to gather views on the necessary competencies for library technicians. In total, 1,357 surveys were mailed in June 2003 for the Phase I survey and ninety-four surveys were e-mailed in December 2005, for the Phase II portion. The total response rates were 34 percent and 63 percent for the Phase I and II surveys, respectively. Given the number of libraries in Canada, results for the 461 Phase I libraries permits a high level of confidence in the findings and allows us to generalize the results to the Canadian library community at large.

In-depth Telephone Interviews with Deans/Directors of Programs

Interviews were conducted with the twenty-three heads of the MLIS and LIT programs. These interviews were designed to contextualize existing curriculum and program information as well as accessibility issues. In addition, respondents were asked to comment on the bases upon which program decision-making is made and on their relationships with employers, library associations, and with other LIS educators.

Student Survey

The survey instrument for students was designed to gather a demographic, education, and work experience profile of current MLIS and LIT students as well as students' views on program choices, career choices and goals, and their assessment of the education received thus far in their programs. In total, 857 current students completed the survey for an estimated overall response rate of 42 percent. Of these, 354 respondents were from MLIS programs for a response rate of 31 percent. The response rate for library technicians was significantly higher at 59 percent. Though the response rate for MLIS students is acceptable, we are more confident in the results for LIT students.

Practitioners' Survey

This survey, conducted in the summer of 2004, was the largest and most comprehensive stage of the 8Rs research project. The survey was designed to gather a wide range of information from current practitioners. For the purposes of this report, we draw on results from respondents who were recent graduates from their MLIS or LIT programs. The subsample of individuals is defined as those who graduated between 2000 and 2004. Of the 4,693 total respondents, 272 were recent MLIS graduates and 139 were recent LIT graduates. The response rate for the total survey of professional librarians and paraprofessional staff was 37 percent.

Review of Online Curriculum and Professional Development Offerings

The focus of this analysis was on required courses since it was deemed inappropriate to capture the curricula by including elective courses, which may have varying enrollments from year to year, and do not provide insight into what is believed to be the "essential" knowledge for students to learn. This decision was also based on the questionable currency of Web information (e.g., posted electives may be offered infrequently, according to one educator). In addition, program information was provided by each of the twenty-three institutions summarizing their application, enrollment, and graduation rates over the past five years. Lastly, professional development opportunities were collected from the websites of fifty-three Canadian library associations; these were associations that are primarily organized around geography (e.g., Library Association of Alberta), rather than type of librarian, with some exceptions (e.g., Western Canadian Chapter of the Special Libraries Association), and used in the analysis of continuing education/professional development.

The curriculum offerings of each of the seven MLIS and sixteen LIT programs were gathered from the websites of each program. The curricula were then categorized according to a competency format, which was based on the combination of previous 8Rs competency categories and the Competency Chart for Information Resources Management Specialists (IRM) published by the CHRC. The curriculum categories are listed in table 1 below, showing the recategorization of the IRM competencies under the 8Rs-defined competencies under which they were ultimately categorized. This recategorization allows the CHRC as study sponsor to see how its previous work integrated with the more recent research by the 8Rs team.

Findings

The findings presented here represent highlights from the analysis of the five major data sources. The section begins with a short profile of current MLIS and LIT students and recent graduates from surveys, including general demographics, reasons for entering the field, and reasons for their choice of school. Next, a review of the accessibility of MLIS and LIT

Table 1. IRM/8RS Curriculum Framework

8Rs Curriculum Category	Information Resources Management Specialist Category
Public Service/Outreach	Create/maintain programs/services Provide reference/research/advisory services Provide access/support services Provide e-services
Collections	Acquire/dispose of information resources Store/protect information services
Technical/Bibliographic Services	Create framework for resource access
Management	Demonstrate business/management skills

programs is presented, based on dean/director and program head interviews and reviews of online program information. Program accessibility has been identified as a concern for the field, particularly with respect to professional librarian education. This is due in part to the relatively small number of Canadian MLIS programs (seven at the time of the study³), as well as the geographic reality of Canada, which means that potential students from some provinces and territories would have to relocate in order to pursue the degree. Here, accessibility is examined with respect to numbers of available seats in programs versus numbers of applicants and criteria for admission, as well as geographic location. Next, the industry-education competency match is considered, summarized in general overviews of the two types of programs' course offerings taken from their websites, as well as from the perspectives of students, new graduates, and employers taken from survey responses. Finally, based upon library student, staff, and employer surveys, as well as upon interviews with deans/directors and program heads, we present a broad summary of program opportunities and barriers, in order to clearly identify potential areas for change and collaboration, as well as to understand where programs must consider requirements from stakeholders other than students and employers (e.g., parent institutions).

Current Student/Recent Graduate Profile

The female-dominant profile of the field did not show any indications of change when looking at the demographics of current students and recent graduates: just over eight of ten current MLIS students and recent graduates were women, and approximately nine of ten current LIT students and recent graduates were female. Interestingly, LIT students tended to be older than MLIS students, with 37 percent of the former aged forty or older, as compared to only 15 percent of the latter. Students who identified as visible minorities made up about 10 percent of MLIS students and recent graduates; this was higher than those who identified as such from the LIT programs, at 5 percent of recent graduates and 9 percent of students. Students who identified as aboriginal were higher in the LIT programs (3 percent) than the MLIS (1 percent), although a higher

percentage of new librarians (2 percent) than library technicians (1 percent) identified as aboriginal. It is notable that none of these figures were as high as those in the larger Canadian labor market of the time, at 14 percent of the overall workforce identifying as visible minorities, and 3 percent identifying as aboriginal.

Exposure to the field of library work appeared to be a factor in individuals' choices to enter a formal education program, as 64 percent of MLIS students and 49 percent of LIT students had worked in a library prior to starting their programs. Students were surveyed on their reasons for entering the field of librarianship; MLIS students were the most likely to choose their profession as an avenue to greater career status and further career opportunities or because of perceived job market opportunities. In contrast, new professionals tended to choose the career because of values of literacy, learning, and research; attraction to job content; and an interest in the public service aspect of library work. Current LIT students most frequently cited good working conditions/job environment (39 percent), values of literacy, learning, and research (30 percent), and a perceived fit with personality, interests, and skills (29 percent) as reasons for pursuing their career.

PROGRAM ACCESSIBILITY

MLIS Program Accessibility

Interviews with MLIS deans/directors revealed that none of the seven programs have a formal recruitment policy, and that marketing and proactive recruitment are in fact very minimal. At present, most schools rely primarily on their website as a marketing tool. Enrollments reflected the marketing strategies employed by the seven MLIS programs. Most students learned of their program through the program's website (77 percent) or by word of mouth (60 percent). However, interest in the field demonstrated a notable spike in recent years; the number of applicants to Canadian MLIS programs increased by 67 percent from 2000 to 2004. Enrollments also increased, although not as dramatically as applications, by 33 percent between 2000 and 2005.

Key criteria for students included convenient (66 percent) or desirable (46 percent) location of the school, reputation of the university (55 percent), or of the program itself (45 percent). While a few programs assess applications in light of perceived "suitability" for library work, programs primarily adhere to requirements from the faculty of graduate studies within their parent institutions, including minimum grade point average (GPA).

MLIS deans/directors reported perceiving their respective programs as fairly accessible, a perception that is supported by the results from the survey of current students. Eighty-five percent of students felt that the

entrance requirements to their program were appropriate given the demands of the program in terms of intellectual content, rigor, and workloads. Just one of the seven MLIS programs did not currently offer or plan to offer some courses by distance/online delivery. The majority (72 percent) of students felt that the MLIS program delivery options were adequate. Of the 28 percent who reported otherwise, by far the most predominant suggestion for change, made by 37 percent of students, was to improve distance education opportunities.

LIT Program Accessibility

LIT program heads typically did not rely as heavily on their website as a method of marketing their program: only half (52 percent) of LIT students learned about their program through the program website, but 44 percent learned of the program through a program session or representative or through career counseling.

Applications to LIT programs increased, although not to the extent as did MLIS programs. LIT programs saw applications grow by 19 percent between 2000 and 2001, and 2004 and 2005 overall, though there was a great deal of variation across individual institutions. Similarly to MLIS students, LIT students were very likely to have chosen their program because it was in a convenient (68 percent) or desirable (46 percent) geographical location.

Requirements for admission to Canada's LIT diploma programs are set by the institution rather than the program or, in the case of Quebec programs, the provincial government. Most LIT programs had an open-access policy in which all applicants meeting the minimum admissions requirements are accepted until enrollment quotas are met. From 2000 to 2005, LIT enrollments increased by 17 percent, much closer to their overall demand than with the MLIS programs. A majority (eight in ten) of LIT students felt that their program delivery options were adequate; from the 20 percent who reported otherwise, by far the most predominant suggestion for change made was to improve distance education opportunities.

MLIS Education Competency Fulfillment

An analysis of core required courses for all MLIS students across Canada indicate that MLIS programs as a whole do not privilege one area of skill development over another: a maximum of 20 percent of courses are required in any one area; that is, a maximum of 20 percent of students' required coursework was categorized as management, for example. A brief summary of required courses follows:

- All MLIS programs required students to take at least one course in management/business/leadership, and research
- Six MLIS programs required coursework in IT and issues/history/foundations

- Three required coursework in public service and technical/bibliographic service
- One required a collections course
- Three programs required students to complete a practicum program (all seven programs offer practica)

Areas of frequent change cited by deans/directors were those corresponding to areas of information technology or management. Several schools offered additional opportunities for professional experience or networking beyond coursework.

A notable minority of MLIS students surveyed in 2006 stated that although they believed business, leadership, and management skills to be important in the field, they did not believe these skills to be provided in their coursework: 32 percent believed this to be true of business skills, 24 percent believed this to be true of leadership skills, and 22 percent believed it to be true of management skills. Just under half (46 percent) of students agreed that their program was providing them with a realistic depiction of what it is like to work as a librarian or in a related profession, and 68 percent of current students expressed satisfaction with the overall quality of their education.

The majority of employers surveyed (75 percent) agreed with the statement that education provided in MLIS programs equipped graduates with the competencies required to be professional librarians. When asked for further suggestions on how to improve the program, current students and recent graduates were most likely to cite the need for more practical training, while employers recommended improvements to management-related curriculum.

LIT Education Competency Fulfillment

The single focus of LIT programs is to ensure graduates have applied knowledge that will enhance their employability. It is no surprise, then, that technical and bibliographic courses and information technology courses together comprised 40 percent of all required courses across the country. Recent curriculum changes involved the increased provision of information technology courses.

When asked about the necessary competencies for library technicians, all employers surveyed cited interpersonal/people skills. Close majorities consider organizational commitment (95 percent) and communication skills (93 percent) to be important competencies. The competencies considered most important and most difficult to fulfill when recruiting library technicians included the ability to respond flexibly to change, IT skills, and public service skills. Overall, however, only minor gaps between important competencies and their provision in the diploma program were found.

Students in LIT programs (78 percent) were significantly more likely

than MLIS students (46 percent) to perceive that their programs were providing them with realistic depictions of work in the field; a similarly-high proportion of LIT students (83 percent) expressed overall satisfaction with their program. Employers were even more positive in their perceptions of these programs; 90 percent believed that the LIT diploma programs adequately equip students for the workplace.

Suggestions regarding areas for improvement were very general from students, who stated that their programs could be improved with “better course content,” while employers were most likely to suggest job-specific skills, including better technology skills training and more specialized training.

CONTINUING EDUCATION, TRAINING, AND PROFESSIONAL DEVELOPMENT

New librarians (58 percent) were more likely than paraprofessionals (44 percent) to agree that their organization provided sufficient opportunities for training. Employers viewed professional development to be one role for library associations, with 85 percent stating that associations should assist in the training of professional librarians.

Librarians had participated in a variety of training over the previous year, including job skills (82 percent), technology skills (84 percent), customer service (56 percent), management (51 percent), leadership (28 percent), and mentorship (9 percent). A very small minority of librarians (6 percent) learned through some kind of peer job-sharing arrangement. The focus of training for paraprofessional staff tended to be on primarily operational areas, including job skills training (74 percent), technology skills training (83 percent), and customer service skills training (52 percent). Participation in management or leadership training is rare among paraprofessionals, at 16 percent for management and 10 percent for leadership.

The websites of fifty-three Canadian library associations were reviewed in this study, with thirty-eight of these associations listing professional development opportunities for their membership. Of the listings, the most frequently offered learning opportunities were in IT (offered by 70 percent of associations) and some combination of management, business, and leadership (offered by 40 percent of associations).

Library personnel can pursue professional development through Canada’s post-secondary institutions in one of four ways:

- Attend courses offered through continuing education departments of Canadian colleges and universities
- Attend workshops and seminars hosted by library schools
- Audit core and elective courses offered by MLIS and LIT diploma programs

- Take certification programs in areas of specialization through some Canadian colleges and universities

It is worth noting that the smaller number of MLIS and LIT programs, combined with Canada's geographic spread, suggests that many professionals and paraprofessionals will require distance delivery for library-specific content (as opposed to more generalized professional development available from a continuing education department) in order to access the training.

OPPORTUNITIES AND BARRIERS TO CHANGE

MLIS Programs: Opportunities

The deans and directors perceived that their programs had the responsibility to provide student education that would meet the needs of the library sector and of the profession; it should be noted that different deans and directors varied in the level of importance they placed on this responsibility, depending on other program goals. All deans/directors also recognized the importance of managerial skills to employers and most had recently enhanced this component of their curriculum, or were planning to do so. Further, all deans/directors are aware that educator-employer communication could be improved, in order to understand the changing needs of the field, and many had specific plans for doing so.

Program change itself was not seen to be a prohibitive exercise in general, although most noted it could be lengthy, and its limitations were understood to come from a lack of resources to create change.

MLIS Programs: Barriers

Formal educator-employer communication was not well-established at the time of the interviews with deans and directors, other than on a limited basis (for example, through discussions on practica or cooperative work programs). The fast pace of change within this field with respect to functional requirements poses a challenge to educators and employers alike, in terms of understanding professional needs. There are obstacles to the opportunities for educators to become knowledgeable about the needs of the employer. These obstacles included:

- educators' uncertainty about how to create the appropriate venue for educator-employer dialogue;
- educators' uncertainty about how to find out about labor market competency needs;
- educators' concern over the reliability of available information (e.g., competency frameworks) and questions about how well this information describes a fast-changing work environment;
- particular difficulties inherent in assessing employer needs at an international level;

- the need for MLIS programs between meeting needs of multiple stakeholders (e.g., employers, students, profession, university, faculty);
- the tension within MLIS programs between meeting needs of employers in different library sectors;
- the tension within MLIS programs between meeting needs of local versus provincial versus national versus international employers;
- the increasing need to accommodate student interests may reflect a post-secondary wide trend in which the student has, as a consumer, become more of a priority in programming development and change. Student interests may or may not reflect the needs of employers;
- the perception that employers do not always have realistic expectations of what can be accomplished in a two-year program that must appeal to multiple stakeholders, and serves as a generalist, entry-level education;
- the discrepancy between educators and employers in terms of their respective training domains (e.g., on sector-specific training and management and leadership training);
- increasing distance education opportunities without sacrificing program quality;
- program curriculum must relate to areas of strength of current faculty;
- the university systems of promotion and tenure that tend to undervalue community service work by faculty (e.g., liaison with employers and attending and/or presenting at non-academic conferences);
- lack of contact with LIT programs, leading to two educational solitudes that must be reconciled in the workplace.

LIT Programs: Opportunities

Library and information technology programs are designed to meet needs of the labor market. The study found no significant barriers, as compared to those faced by the MLIS programs. Still, most employers did not feel they have an influence on LIT program curricula. Guidelines informing the content and structure of LIT programs (from the Canadian Library Association (CLA), the Association pour l'avancement des sciences et des techniques de la documentation) appeared to be sufficiently broad as to enable curricula revisions. Some English-language programs noted that the CLA Guidelines for Library Technician Programs were outdated and should be revised to reflect current needs.

CONCLUSION

This broad study of the Canadian library education and professional development environment identified positive perceptions of the programs in general; one notable exception is that of programs providing a realistic depiction of what it is like to work as a librarian, library technician, or in

a related profession. It can be argued that within entry-level education, a realistic depiction of work in the field may not be as easily-taught as other aspects of the field. However, there is a case for the attempt to close this gap in understanding for students and new professionals.

Further, the identification of complex obstacles perceived by educators to communication and change has served to provide greater understanding for those in the profession; it was an important first step to illuminating the reasons behind what Canadian employers have perceived as disconnect with the library education system.

The study outlined a series of recommendations, targeted toward specific groups in the field in the final report. These recommendations emerged from the data and represented our evaluation of the entire Canadian LIS system. It should be understood that the research also revealed that, in some cases, efforts are already underway to address the issues and that the recommendations were in no way intended to discount the important work currently being accomplished by many individuals and organizations throughout the nation.

A consistent theme from past 8Rs research was the need to have a more diverse workforce and one that is comprised of individuals who are flexible, broad-thinking, innovative, and hard-working. There are a number of conclusions that stem from this finding. First, we strongly encourage educators to market their programs and recruit toward diversity; this would include visible minorities, immigrants, and undergraduates from a variety of disciplines. Further, these materials should emphasize some of the important qualities of library staff, including the ability to carry out a wide variety of roles, and to manage and lead the libraries of tomorrow. This would be enhanced by work from associations to continue to promote the diversity of opportunities in the field, thus countering persistent stereotypes of librarianship. Library and information science educators could consider selection criteria in addition to GPA that would attempt to identify students with an interest in management and leadership, or flexibility and adaptability. These personal competencies could also be discussed throughout the curriculum as important for professional success.

In the workplace, employers should consider how their recruitment processes deal with these important competencies, and how they are fostering the competencies through professional development in the workplace (particularly in leadership and management). Finally, continuous information technology training is important for all, but should address the gap found with respect to library technicians.

Communication between educators and employers is of great importance; this allows for ongoing dialogue and awareness about current and emerging competencies required in the field, and helps bridge the gap between theory and practice, in the most practical terms. Study findings suggested that educators from both the MLIS and LIT programs should

enhance formal avenues for learning about the needs of employers, such as conducting focus groups or surveys. Further, MLIS and LIT educators should communicate with each other in order to discuss how they are working to develop students' core competencies through education.

Educators from LIT programs should consider the balance and integration of course offerings between generalist, IT, public service, and communications skills course offerings in their self-evaluations. This process would be supported through information-gathering of employers' needs, not only through regional employer communication, but through communicating with other programs at a national level, in order to identify trends in library technician competency requirements regionally, provincially, and nationally.

A notable gap in understanding between MLIS educators and employers appears to be a clear reflection of the extent to which entry-level education can realistically "prepare" students for professional work. It is therefore important for employers to recognize the differences between education and job-specific training, so that they may have a realistic picture of what types of support new librarians require.

Students would benefit from a greater understanding of the needs and realities of the workplace while they are pursuing their education; opportunities to hear employers' survey responses or attend employer-educator conversations would be one way of addressing this gap. Additionally, a way of communicating this difference to students would be to enhance course work applicable to specific practice settings, so that students start to think about specific professional development needs in the workplace.

The Canadian Council for Information Studies (CCIS) is an important resource for MLIS program deans/directors; the benefits of this council could be further exploited for cross-program collaborative opportunities.

Employers should reflect on and assess the training needs of all paraprofessionals (library technicians and others) in their organizations. Further, employers should examine their needs for management training and enhance opportunities for staff to receive this training, whether internally or through external sources. Experiential learning models (such as leadership institutes or leadership forums) have been shown to achieve success; employers could consider partnering with associations and/or other institutions in order to offer or support such initiatives for their staff. Employers must also be proactive in communicating with LIS programs on emerging competency needs, in general, and for specific areas of curriculum (i.e., IT, management). Finally, employers should be proactive in communicating with associations/organizations offering professional development, both on general emerging competency needs, and for specific areas of coursework.

On the part of practitioners, it is important for them to pursue leadership opportunities through such means as serving on library association

boards or committees or participating in the governance of organizations. Lastly, associations can take a leading role in offering distance education opportunities, with accessibility as a key consideration. Associations that provide professional development should establish formal communication avenues with one another, to gain a greater understanding of their respective areas of focus and to avoid overlap in course offerings. Canadian library associations could also look at models for the self-assessment of professional development needs, as well as formal frameworks for recognizing members who meet the standards of the association's scheme. They can also play a role in facilitating professional discussions (for example, to promote educator-employer interactions), as well as facilitating the collection and dissemination of information to the library sector about skills gaps identified through research.

In conclusion, this study's value certainly resides in its identification of some of the complexities of the library education context in Canada. However, additional value perhaps lies in its identification of roles and responsibilities for various stakeholders within library education, including the programs and faculty, employers, individuals, associations, and the library community as a whole. While it may be tempting to assume that professional education is solely the responsibility of the educators and professional development solely that of employers, there are many opportunities to help shape our education and continuous learning as professionals and paraprofessionals in the field.

NOTES

1. In Canada, library technician programs are a two-year educational option for people who are interested in working in the library and information field, but are not interested in librarianship or do not have an undergraduate degree required for entrance into master's programs. The key difference between education programs for the librarian and those for the library technician lies within the definition of librarianship as a profession, where library technicians are not defined as such. Library technician programs are oriented toward providing students with the more concrete skills for employment (Davidson-Arnott, 1998).
2. The text of all survey instruments can be accessed at 8Rs (n.d.).
3. An eighth program has since been established at the University of Ottawa.

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