

**Public Libraries, Training and the Impact of Information Technology: a comparative
study of public libraries in Canada and England.**

by

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**Thesis Submitted for the Degree of
Doctor of Philosophy**

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December 1997

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Acknowledgements

I would like to thank:

my colleagues at the Saint John Regional Library, Saint John, New Brunswick, who gave me the initial incentive to examine training,

my supervisor, Bob Usherwood, for his assistance and encouragement in preparing this thesis,

the staff in the libraries in both England and Canada who agreed to participate in this study

my husband, Alan Griffiths, who is both my greatest fan and severest critic.

Abstract

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Training is increasingly required as technology brings wide sweeping changes to the ways in which traditional library activities are administered. The purpose of this thesis was to collect and analyse information on training, on the use of information technology and the training given for it, and how the technology in use has impacted on training in selected public libraries.

Semi structured interviews formed the basis of the data collection on training in the English and Canadian libraries. While concentrating on the types of information technology introduced and hence what training is required, the researcher also uses examples from training programmes covering other issues, or relating to non automated situations, if this elucidates a specific point.

Training has become a key activity in public libraries and the interview data establishes this hypothesis. The IT introduced and currently in use in public library systems determines the training offered which in turn impacts on the individual staff member, the organisation and the library community as a whole.

This demonstrates that the introduction of technology does modify the training required. The organisational structure flattens after technology is introduced; the role of middle managers undergoes significant changes while the blurring of job boundaries between different levels of staff dramatically alters the role of paraprofessionals.

Other areas where significant changes are taking place include the need for a more highly educated and skilled workforce; whether deskilling has happened; the need for improved interpersonal skills; and the creation of new specialist positions.

IT stresses a team not an individual approach and training needs to reflect this. Further it is demonstrated that using the technology itself for training is on the increase: CBT (Computer based training) can be used for a wide range of repetitive tasks, particularly those associated with the circulation desk and be used with simulations in management situations.

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Chapter 1

Introduction

1.1 Introduction

This thesis examines the staff training offered in public libraries and the changes that the introduction of information technology (IT) has brought to the type of training that is required and supplied.

Training, particularly that given on a one to one basis, has been a feature in libraries (Edwards 1977; Prytherch 1985) for many years. Training has become more formalised as libraries have grown and expanded: with larger numbers of staff a more rigorous and strict system of assessing not only the training needs of individual staff members and departments but also the methods of implementing the training (Bentley 1990; Creth 1986 or Prytherch 1985) has evolved.

Judgements about the quality of the training as well as the standard expected from the training are commonplace in training and automation decisions (see for example, Batt 1994).

This is a comparative study examining public libraries in England and Canada. Seventeen pilot interviews in three English public libraries preceded seventy-seven individual interviews in seven Canadian and six English public library systems to form the basis of the data collection. The interview focus was:

1. to examine training in a range of libraries which varied in size of population served,
2. to obtain personal views of training and the automation process through interviews with a range of staff from counter assistants to chief librarians,
3. to determine if there were significant differences between the two countries in the approach and type of IT training offered.

This thesis concentrates on the training required following the implementation of an automated system: in the first instance the emphasis was on the introduction of an automated circulation system into the public library. Data obtained from the interviews enriched the scope of the study beyond that of training for an automated circulation system and does examine the broader issues relating to training and introduction of automation.

The research examines the following issues:

1. Whether work groups, such as those who work as a team in a particular department, for example the circulation department, would have their training changed by IT
2. Whether different skills would be required of the individual staff members in those work groups as well as for the team itself
3. a comparison of the implementation of IT and the training practices in England and Canada

The interviews were conducted over approximately eight months in 1990-1991. They stand as a snapshot of opinions and as a reflection of the state of automation in those libraries at that time: the automation routes will be highlighted. An examination of the past will clarify and give substance to the routes currently in use as a burgeoning growth in technology features in all libraries. Not all libraries however have reached the stage of full automation: therefore, the findings still have validity and applicability to other libraries at similar stages of implementation of technology (Batt 1985, 1988, 1990, 1992; Bergen 1988).

1.2 Why Examine IT?

Information technology has affected nearly every routine operation in the library: information technology, in some form, has been introduced in almost every public library system in England and in Canada. Not all library systems employ an automated circulation system or on-line reference sources (Batt 1994) but they are feeling the effects of such advances. Since the original interviews were held the growth and use of technology has been phenomenal: staff in libraries of all types now routinely use networked resources and have access to the Internet (UK Public Libraries; Ormes & Dempsey 1995; Canadian Library Index).

Information technology is having a profound effect on the day to day routines not only in libraries but also in other organisations:

It is further accepted that the arrival of IT has created a new technological "paradigm" for companies and other institutions for two reasons: first, they ignore IT at their peril because IT creates a new "best practice" or set of ground rules - the use of IT has rapidly become accepted as the new "common sense"; second, IT calls for dramatic changes in organizational structures, from the smallest firm to the largest government bureaucracy, although as we shall see the choice of systems is not determined but is open to social negotiation. (Forester 1989).

The methods of doing particular jobs and the organisation of the work flow itself is changing in response to technology. This is more apparent now as the practice of using the technology has become an everyday occurrence: one example is the way in which many libraries have made the switch from print subscriptions of indexes to those which are available either on-line or in CD-ROM format. No longer does the physical placement of a staff member in a particular department determine the parameters of the job. Jobs are much more portable and can be carried out wherever an appropriate terminal is set up (Burton 1992).

Information technology is changing:

- the structure of organisations
- the day to day working practices at all levels in organisations
- the skilling, deskilling and reskilling of the staff
- the speed at which tasks are carried out
- the establishment of standards

These, and other related, issues will be discussed throughout the thesis.

Not only is the content of the job changing but also the skills required of the person carrying out the job:

As technology changes, jobs also change. Technology tends to require more professional, scientific, and other white collar workers to keep the system operating. ... Technology generally upgrades the skill and intellectual requirements of the total work force. (Davis and Newstrom 1989).

The technology does challenge perceived perspectives on how operations should run. Staffing costs are very high: technology costs are also high but the investment in staff through training will have a greater benefit to the organisation (Lipow 1989a; McKee 1986).

1.3 Why Examine Training?

Training should not be considered a "frill". Despite professional qualifications many librarians continue to be unfamiliar with the broad range of information technology available (Bergen

1988). If they are unsure or unfamiliar with developments in the field, the staff that they supervise will also be unaware of what automation can offer to them.

Training should be designed to ensure that all staff are fully familiar with new methods of operating as well as with the technology. This training will only ensure that the basic or minimum standards required are met. Staff are the most important resource in the library: they do have many of the skills necessary to use and work with the new technologies. It is to the benefit of the library management to draw upon those skills and develop the staff in and for the automated environment.

As noted previously not only are individual departments being affected by the automation of the library but also individual jobs. As fewer professionally qualified positions are required in the technical services area more training and re-training will be necessary to integrate those staff members into more public service areas. In fact, Burton quotes from an article that suggests:

... that automated systems can use 68% of the staff required by manual systems, whilst computerized LIS [Library Information Systems] have far fewer work activities than the non automated equivalents. (Burton 1992).

One reason often cited (Herring 1986) for the automation of library procedures is to reduce staffing levels: respondents in the present survey have not found that staff numbers have fallen, as will be demonstrated in Chapter Four. Instead, staff have been re deployed or have taken on greater responsibilities. This issue is discussed in Chapter Five.

1.4 Background on the Libraries

There are many similarities between library systems in Canada and England: a common pattern in both countries is a library system organised with a central or main library and auxiliary branches serving smaller or more discrete areas. However, the funding of library services does differ in the two countries. In addition libraries in Canada often have a non partisan board of directors who make policy decisions as compared to party political environment which exists in England.

Brief details and general background on library's services in the two countries are included here. More specific information on the particular libraries chosen for this study is given in Chapter Two.

1.4.1 Libraries in Canada

There are over 1000 public library systems with over 3000 service points in Canada. The public library system in Canada is legislated and administered by each of the ten provincial and two territorial governments. Funding is therefore handled differently in each province and territory: in New Brunswick for example the local municipality provides the building and capital costs while the province provides funding for the staff and materials.

The National Library was established under federal legislation in 1953 as the result of:

Canadian libraries, in effect, demand[ing] a national focus and national leadership to channel disparate local efforts toward nationwide objective. (Scott 1985).

The initial focus for co-ordinated national development came from the library community itself. Librarians needed to know not only what resources existed but also where they could be found. The size of the country makes these two issues very important indeed when considering the implications and need for clear guidelines on resource sharing. From the beginning of the 1980's the objectives have been to:

Support Canadian studies through acquisition of Canada's print heritage; facilitate bibliographic and physical access to collections across Canada; coordination of national planning for library services; utilization of the library's own resources to help meet its objectives. ... Its application of technology to library purposes and its promotion of interlibrary cooperation are aimed at developing a decentralized, voluntary library network that will help to ensure Canadians equality of access to information through libraries throughout the country. (Scott 1985).

This continues to be the primary objective of the library as stated in the 1995-96 annual report:

The National Library of Canada's primary responsibilities are to collect, preserve and make accessible Canada's published heritage. A major resource for research in Canadian studies and for the promotion of Canadian literature and music, the National Library also plays a key role in fostering library development and facilitating resource sharing among Canadian libraries. (Annual Report).

The National Librarian, Marianne Scott, gives a national perspective in describing some of the difficulties facing a national library service:

The federal government has no department specifically concerned with libraries. Consequently, support for libraries on a national scale consists mainly of those services provided by the National Library of Canada in the social sciences and humanities and the Canada Institute for Scientific and Technical Information (CISTI) in the natural and applied sciences, health sciences and technology, with added support from federal government libraries. This diversity mitigates against coordinated action, even within the provinces/territories, and seriously complicates efforts to set and achieve national objectives. (Scott 1985).

Technological advances that will benefit the library community locally, nationally, and internationally are undertaken by the National Library. For example, the national union catalogue is available on-line as are a number of more localised databases; the developments of protocols for interlibrary loan services and for the transfer of bibliographic information are two other areas where the national library has been active. As Scott said:

Technical innovation and progress in the application of new technologies to library purposes will continue rapidly to alter the environment in which libraries operate. For example, continued experimentation with technologies such as telefacsimile, electronic publishing, and electronic messaging should yield significant results for interlending and document delivery. (Scott 1985).

The benefits accruing to public library services have been to provide knowledge of technological developments, to ensure that public library viewpoints are clearly articulated and to allow public libraries a means to participate at a national level in the introduction of technology. The Information Technology Services (ITS) unit within the National Library has responsibility for:

Developing, maintaining and operating the computer systems which serve both the National Library and the Canadian library and information community.

ITS provides leadership, coordination and policy development for the computer-based Canadian library and information community network, conducts research into library applications of computer technologies, and provides Internet support services to the National Library and systems support services to both the Library and its federal government library clients. (Annual Report).

An early nation wide project underwritten by the public library community was the survey undertaken by the Canadian Association of Public Libraries (CAPL), with support from both the National Library and the Canadian Library Association, entitled Project Progress (Canadian Library Association 1981). Public libraries, in the late 1970s, were surveyed to determine trends which also included the use of information technology. From this survey a number of conclusions were made which demonstrated that the use of computer technology was number one on the list of present developments affecting libraries.

As can be seen from two different perspectives of a national library and a national association devoted to public libraries, technology and technological innovation are very much at the forefront of developments in Canadian librarianship.

1.4.2 Libraries in England

Libraries in England operate under the Public Libraries and Museums Act of 1964. Further legislation relating to public libraries is contained in the British Museum Act 1972 and those acts which reorganised the boundaries and services of local government (Murison 1988). The two key items of legislation as given are still the guiding framework for public library service although there has been some redrafting in line with the continuing local government reorganisation.

Nick Moore (1987) in surveying libraries in Britain states that:

The 166 public library systems provide a service which covers the whole country. (Moore 1987).

He goes on to state that funding for the public library service is controlled by the local councils and that:

the service has come under pressure in recent years as attempts have been made to restrain local government expenditure. (Moore 1987).

Since the mid 1980's reviews of the public library service have been undertaken: the first major review was published in 1988 in a green paper, *Financing Our Public Library Services (Financing 1988, Pritchard 1991)*. The shift in emphasis from that green paper has emerged in the many reports and discussion papers since 1988 including most recently the National Heritage Department's Review of the Public Library Service in England and Wales (Aslib 1995). Funding for major leaps in service provision as proposed by the ASLIB report which would include wider general access by the public to the Internet and the World Wide Web are, according to the report's critics, not addressed. For example Hopkins (1995) expresses his personal dissatisfaction with:

What is seen to be a sense of financial unreality in these reports: with their exhortations about the public libraries' lack of vision and reluctance to invest more heavily in the information superhighway and the feeling of certainty that the private sector could do a better job. [He] balances these criticisms by highlighting some of the helpful and

practical findings of the reports, including: the restatement of the principle of public funding for public libraries; the call upon the DNH to set out a new comprehensive framework for public libraries; the extensive market research undertaken as part of the review process and the scope of the data provided; and notes on the specific types of users of public libraries. (Hopkins 1995)

The Library Association Annual Report for 1996 makes the point that:

The government had still not issued its long promised policy statement on public libraries by the end of 1996. This was expected to include the government's response to the recommendations of the *Review of the Public Library Service in England and Wales* and the *Investing in Children* report, both of which were published in 1995. We expressed concerns to government that there was a real risk that the momentum provided by those reports would be lost. (Library Association 1997).

With libraries dependent on public funding there has been a steady decline in the funding of libraries in the past decade. Cuts in services, cuts in opening hours, and cuts in staffing levels have been seen in many library authorities. However, despite this fall in funding the use of IT (information technology) has risen. As Moore (1987) has stated as librarians use technology to develop new services that same technology is changing attitudes of library users which in turn places greater demands on library services. Ultimately this will benefit libraries and the development of their services.

With some background information in place about the study and the overall library scene in the two countries it is timely to move on to examine the data gathered.

1.5 What the Data will Demonstrate

The interview data will be used to examine the notion that training has become a key activity in the public libraries. In turn the automation in use in the library systems has had an effect on the training which in turn has impacts for both individual staff members, the organisation and the library community as a whole.

The technology in place will modify the training that is offered to all staff members. The demands placed upon the staff from counter assistants to senior managers will result in a number of alterations to the organisational structure of the library: the hierarchy will become flatter, the role of middle managers will continue to change and evolve and the role of paraprofessionals will change dramatically. The data gathered does demonstrate these changes:

despite being gathered in the early part of the 1990's examination of this data is very relevant. The past can illuminate the development of current practices.

As stated earlier, a series of interviews with staff in public libraries in both England and Canada was chosen as the method of data collection. Research methodologies are the focus of Chapter Two: the specific methodology employed, naturalistic inquiry (Mellon 1990), is examined there along with a brief discussion of qualitative research methods. Chapter two also includes information on the researcher's interest in completing this study, the interview schedule, a detailed listing of the levels of staff participating and the problems identified in relation to the methodology chosen.

Definitions of exactly what constitutes training and how this differs from staff development and continuing education is the subject of Chapter Three. The definitions as given by the interviewees are examined along with an analysis of the literature as it relates to the definition of training. Goals for training are often confused in the interviewees' minds with their definition of training: this, too, is examined.

Applications of information technology in use in the sample libraries at the time of the interviews are examined in Chapter Four. Included here are the reasons staff in the selected libraries stated for the decision to automate, the route taken to automate, the technology in use as well as the directions the interviewees see the technology taking in their libraries. The developments particularly in ways of assessing reference information via the World Wide Web, the regular use of email discussion lists, video conferencing techniques that could be used for both reference work and staff training have all come about since the initial interviews were conducted. While acknowledging those changes the focus of the study concentrates firstly on the training required for an automated circulation system and secondly on the more general issues arising from training in and for IT.

The advantages and disadvantages of IT are discussed in Chapter Four which concludes with a discussion of the training implications of IT based upon the applications in use.

The impact of IT on the individual staff member and on the organisation as a whole is the focus of Chapter Five. Issues including the deskilling of staff, the blurring of job boundaries and the role of middle managers are introduced in terms of the impact of IT. The training implications of these major changes are discussed along with the new skills staff have had to learn following automation. Some discussion is also raised with regard to the training implications this has for

clerical staff, paraprofessional staff and middle managers. The use of newer technologies has also affected members of the public: library staff, particularly front line library staff, are routinely teaching the general public how to interpret information on the screen. The personal experience of the researcher working in a public library certainly demonstrated that whether the catalogue in question was in card format, book format or fiche members of the public often asked the meaning of specific parts of the entry.

The first stage in the training cycle is an assessment of needs and this is the subject of Chapter Six. Standard tools for assessment such as staff appraisal and discussion with the individual staff member are elaborated along with other methods the interviewees specify. Assessment is well documented in business administration texts (Bentley 1990 or Moorby 1991) but little has been written (Creth 1988 is a notable exception) specifically from the point of view of libraries.

Once an assessment of needs has been carried out, the specific training needs can be identified. This theme is developed in Chapter Seven. A further subdivision is made listing the needs in relation to whether they are IT needs or not. Discussion is also included in this chapter on the new skills necessary and the gaps that may be found in training and training practice.

Chapter Eight concentrates on the methods of training examining both non technologically assisted training and that which is technologically assisted. The issue of who actually does the training is included in this chapter along with brief discussions of some management issues including training the trainers and the transfer of training. Some of the reasons for success and failure of the training programme, as suggested by the interviewees, are discussed.

Evaluation of training is the crux of Chapter Nine. Assessment and evaluation go hand in hand: the training cycle starts anew at this stage with the results of evaluation feeding into the assessment process. One academic library (Richard 1989) which has implemented an evaluation element that feeds directly into the training process is described in this chapter. Academic library practices can offer guidance and direction to public libraries: best practice is valuable to staff in all types of libraries. The primary focus, however, is on the responses of the interviewees who describe a number of methods undertaken by their libraries and their conclusions are outlined here.

Chapter ten states the conclusions of the study and discusses the impact of information technology on training and organisational structures. Some of these impacts are seen in the changing role of the middle manager, the blurring of job boundaries between paraprofessionals

and professionally qualified staff and in the flattening hierarchy of the organisation. Also included in this chapter are recommendations for further research.

The study raises a number of questions about professionalism, about the roles of paraprofessionals and clerical staff, and the blurring of job boundaries within the organisation. Automation places considerable stress on taking a team rather than an individual approach: training needs to reflect this. Increasingly technology is being employed to reinforce the training: CBT (Computer based training) can be used for a wide range of repetitive tasks, particularly those associated with the circulation desk and be used with simulations in management situations. A final updating chapter considers some of the IT developments that have taken place since the interviews were held in 1990-91.

Chapter 2

Methodology

Naturalistic inquiry is similar to librarianship itself - organizing knowledge to make it accessible. (Mellon 1990).

2.1 Introduction

The purpose of this study was to collect and analyse information on training, on the use of information technology and the training given for it, and how the technology in use has impacted on training in selected public libraries in Canada and in England. The research was carried out in the early 1990's using semi-structured interviews with staff in public libraries in the two countries. A separate series of questions regarding budgets for training, negotiations with vendors, the route chosen for the automation and performance standards was asked of each chief librarian.

The initial focus for this research came from the researcher's curiosity about what training is offered, particularly for the introduction of an automated system, and how, if at all, the automating of a library changes the training given. The automated circulation system and the training required for its introduction was chosen as the starting point for the research although the issues and themes which emerged spanned training for automation and IT in general. This was of practical benefit both to this researcher and to other working librarians. A wider range of questions relating to training throughout each library system were also examined during the research.

As the research continued, it was the wider range of questions that became important not simply those relating to training for the introduction of an automated circulation system. The wider management issues of deskilling, the blurring of job boundaries between different levels of staff and the role of the middle manager rather than those purely associated with the introduction of an automated circulation system were the questions that became increasingly significant. Therefore, information relating to these wider issues forms the bulk of the datum within the thesis.

A number of general areas were covered with each interviewee. These included:

1. the automation of the library,
2. the chronology of development of automation and the introduction of information technology,
3. the current IT items in use,
4. the future directions for IT services,
5. the introduction of and training for an automated circulation system,
6. training in general.

From the information collected, a picture of practice in the early 1990's in each of the selected libraries was obtained. Since that time, however, automation of all processes in libraries has been both very rapid and in directions that at the time the interviews were conducted were not viable for most public libraries. The use of an automated circulation system has now become the standard in all, except the smallest, libraries.

Theories of learning and the approaches taken to train exist (see Edwards 1977, for example, in relation to in house library training) and are well documented. It was therefore decided to concentrate on aspects that would demonstrate the impact that training has had on the individual and the organisation.

Interviews were completed with those in the field from senior management to counter staff in order to determine what approaches to training, and especially training in an automated environment, have been adopted.

This was a sample of public libraries in the two countries and not an inclusive study. The information gathered illustrates the directions taken by the staff in these libraries and provides insights that will be of interest and appropriate elsewhere. The training cycle itself provides a useful model around which the findings can be discussed.

Although training cycles do vary, the four basic elements in any model include:

- Investigation of training needs
- Design of the training
- Delivery of the training

Evaluation of the training

The training cycle provides a useful model and context in which the chapters of the thesis logically fit.

2.2 Research Methodology

In order to examine these issues it was necessary to select an appropriate research methodology. The two primary approaches to research in the social sciences entail quantitative methods and qualitative methods. Each of these research methods contains a number of tried and tested means of designing and conducting research projects.

2.2.1 Quantitative Research

According to Slater:

[In quantitative research] the aim is to get clear-cut, precise, accurate results that factually reflect the situation under study. (Slater 1990).

Quantitative research is often employed in the social sciences: there are many examples within librarianship which clearly demonstrate this approach (see for example, Furuta 1990). Some researchers collect both types of data (for example, Hahn et al. 1987, or Curry 1993) and use both within the same study:

Because qualitative and quantitative methods involve differing strengths and weaknesses, they constitute alternative, but not mutually exclusive, strategies for research. (Patton 1990).

Mellon (1990) examines qualitative research methodologies in library and information settings. Her work has subsequently been substantiated by others in the broader fields of social science such as Berg (1995) who quotes a fellow methodologist to define the difference between qualitative and quantitative methods:

In his attempt to differentiate between quantitative and qualitative approaches, Dabbs (1982, p.32) indicates that the notion of *quality* is essential to the nature of things. On the other hand, *quantity* is elementally an amount of something. Quality refers to the

what, how, when, and where of a thing - its essence and ambience. Qualitative research thus refers to the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things. In contrast, quantitative research refers to counts and measures of things. (Berg 1995)

Berg (1995) himself compares the use of both qualitative and quantitative methods this way:

Although various technologies may be used by different researchers, it turns out that everyone is doing science, provided that *science* is defined as a specific and systematic way of discovering and understanding how social realities arise, operate, and impact on individuals and organizations of individuals. (Berg 1995).

The personal perspectives of the participants in the process to automate either their own department or the library as a whole, and their views about the use of information technology was the focus of this study not the assemblage of comparative results, number gathering or the ability to replicate the study; the discovery and understanding of the training process along with the implementation of automation within the teams in each of the sample libraries. Thus, the researcher has chosen a qualitative methodology.

2.2.2 Qualitative Research

Slater provides a definition of qualitative research:

[Qualitative research] is concerned with the nature of the phenomenon under study rather than its incidence in statistical terms, also with its subjective experience by respondents. As its name implies, it seeks the essence or quality of experience. It also fruitfully explores causation. (Slater 1990).

Another definition of qualitative research is offered by Glazier and Powell (1992) as follows:

Qualitative research is referred to in the literature by a number of terms, including naturalistic inquiry, ethnographic research, field research or field work, unobtrusive measures, observation, grounded theory research, and interpretative procedures. (Glazier and Powell 1992)

He goes on to further define the term in stating what qualitative research is not:

It is not procedures that predominately rely on statistical analysis for inferences. It is not a set of procedures that rely predominately on quantitative measures as a means of data gathering. It is not a set of preliminary data-gathering procedures intended to be used as a device for determining what nonqualitative methods should be employed for a project. (Glazier and Powell 1992)

Patton states that:

Qualitative measures describe the experiences of people in depth. The data are open-ended in order to find out what people's lives, experiences, and interactions mean to them in their own terms and in their natural settings. (Patton 1980).

Berg (1995) stresses this by saying:

Qualitative research properly seeks answers to questions by examining various social settings and the individuals who inhabit these settings. (Berg 1995).

Other researchers have also stated that:

Qualitative research does not pretend to be replicable. The researcher purposefully avoids controlling the research conditions and concentrates on recording the complexity of situational contexts and interrelations as they occur. Moreover, the researcher's goal of discovering this complexity by altering research strategies within a flexible research design cannot be replicated by future researchers, nor should it be attempted. (Marshall and Rossman 1989).

While from time to time some statistical or numerical comparisons are given in this study, it is the thoughts and experiences of those who have implemented, or been involved with the implementation, of the training for IT which forms this study.

Jane Ritchie, as cited by Slater (1990), has summed up qualitative research by stating five categories of purpose, or aim, that it should have as:

- 1. Contextual or descriptive research: What's going on here?**
- 2. Diagnostic research: Why does it exist or happen?**
- 3. Evaluation research: How well does it happen or exist?**
- 4. Strategic research: What (if anything) should be done about it?**
- 5. Contribution to research theory: What theoretical statements, at one level or another, about the social world are generated? (Slater 1990).**

This study falls into both the first and third purposes listed: contextual or descriptive research as well as evaluative research. Qualitative research can offer in these cases the documenting of accounts and experiences, the exploration of sensitive issues, the examination of the range and texture of experience, the ability to deal with a process and finally does give flexibility of approach. All of these elements were present to a greater or lesser extent in this research.

2.3 Approaches to Qualitative Research

Patton has described the characteristics of qualitative approaches in an applied setting in the following ways:

1. The capability of qualitative approaches in obtaining *in-depth* information.
2. Qualitative approaches attempt to capture the world as *it occurs naturally* rather than in laboratory or artificial settings where behaviour may well be different.
3. Qualitative research is essentially *inductive*.
4. Qualitative research attempts to be *holistic*.
5. Qualitative research is necessarily *context bound*.
6. A *systems organization* is adopted.
7. The *researcher is the primary instrument of the research* as opposed to adopting an "objective" instrumentation that is separate from the researcher.
8. *Qualitative researchers get close to what they are studying*.
9. There is an implicit understanding that the qualitative researcher is always engaged in *process* - a dynamic understanding of the world.
10. The purpose of qualitative research is to generate understanding, not to provide truth.

(Summary of a talk given by Patton and described in *ESRC Survey 1985-86*). [Note: Italics as in original].

Certainly this research follows a number of the precepts of Patton as given above: most notably, to generate understanding of the phenomenon. Many examples are available which have used qualitative methodology: for example, when examining power relationships in organisational settings, classroom and playground interactions and social network research. (Berg 1995). Other notable examples include Margaret Mead's groundbreaking examination of tribal groups in Samoa and her later work using photographic techniques to compile a documentary on Balinese peoples and John Dewey's application of learning through experience to changing curriculum design. First published in the 1940's a study which received widespread readership was Whyte's *Street Corner Society*. Subsequent editions include

Whyte's own description of how he became a member of a street gang in order to observe and interview members the gang (Whyte 1955). Works such as these popularised serious research for the general reading public and in the process brought qualitative research methods to the fore. An example within librarianship of an approach using the precepts of Patton is that taken by Dakshinamurti (1985) in her research on automation's effect on library personnel. Glazier and Powell (1992) includes many examples of where qualitative research has been used in librarianship using interviews, participant observation, examination of paper records, and case studies.

It is important to emphasise that qualitative research methods have a tradition as a research methodology:

Qualitative methods are first and foremost *research* methods. They are ways of finding out what people do, know, think, and feel by observing, interviewing, and analyzing documents. (Patton 1990).

In fact, Patton further explains this by stating:

Qualitative data consist of *detailed descriptions* of situations, events, people, interactions, and observed behaviours; *direct quotations* from people about their experiences, attitudes, beliefs and thoughts; and excerpts or entire passages from documents, correspondence, records and case histories. (Patton 1980).

It is the purpose of this study to discover patterns in the approaches taken to training by the libraries in the sample, to learn what specific training methods are in use and to apply this knowledge in order to assist other librarians in similar situations to plan an integrated training programme into their organisation. Qualitative data give a greater depth of understanding of a situation than would be possible using only quantitative methods of data collection.

Two well respected methodologies within qualitative research are grounded theory and naturalistic inquiry. The two methodologies have elements in common and discussion of grounded theory will be followed by a discussion of naturalistic inquiry.

2.3.1 Grounded Theory

The development of grounded theory using a constant comparative method was described by Glaser and Strauss in their work in the 1960's:

The discussional form of formulating theory gives a feeling of "ever-developing" to the theory, allows it to become quite rich, complex, and dense, and makes its fit and relevance easy to comprehend. (Glaser and Strauss 1967).

The theory is built up slowly from the gathering of the material. The sense of a quest - the curiosity that sparks off the initial set of questions, the exploration of the question and from the development of a theory which is then grounded in the material that has come forth - is all a part of the process.

Grounded theory can itself be seen as:

Theoretical conceptualization means that grounded theory researchers are interested in *patterns* of action and interaction between and among various types of social units (i.e., "actors"). so they are not especially interested in creating theory about individual actors as such (unless perhaps they are psychologists or psychiatrists). They are much more concerned with discovering *process* - not necessarily in the sense of stages of phases, but of reciprocal changes in patterns of action/interaction and in relationship with changes of conditions either internal or external to the process itself. (Glaser and Strauss 1967).

From the development of the inquiry comes a grounded theory which in turn is further developed and explored as the research progresses.

Both sociologists and anthropologists explain the work of naturalistic inquiry as an attempt to "describe the social world studied so vividly that the reader, like the researcher, can literally see and hear its people..." Sociologists call this activity *grounded theory* while anthropologists use the terms *ethnography* or *cultural description*. (Mellon 1990).

Naturalistic inquiry is also grounded in the understanding of the context, the participant's viewpoint of the events under study.

2.3.2 Naturalistic Inquiry

A better term for the type of qualitative research completed for this study is the one also used by Mellon: naturalistic inquiry. She describes it as follows:

Naturalistic research occurs in a series of overlapping stages that proceed from an interest in some particular question, problem, or situation. While some researchers may approach naturalistic inquiry with a literature review and a carefully constructed framework, those who focus on understanding a phenomenon from the perspective of its participants generally do not. (Mellon 1990).

Naturalistic inquiry has a long history in disciplines (for example in education and anthropology) other than librarianship:

Other terms that have been used to refer to this type of methodology [naturalistic inquiry] include *qualitative, ethnographic, phenomenological, ecological, documentary, and case study*. (Mellon 1990).

Naturalistic inquiry is particularly adaptable to librarianship where the understanding of a process is often more important than the ability to replicate the study. Library research is not necessarily conducive to a linear presentation of results such as those that quantitative research will produce. Libraries, and in this case public libraries, are about people: how they use the equipment and resources available, how they train staff and public alike in the adoption of new technologies or adapt to new situations. The hopes, feelings and aspirations of the staff involved in training or in the implementation of a new system, caught up in the change are at the heart of the research: qualitative research can elucidate and enrich our perceptions of how training is done and how IT impacts on the training providing a basis for further research. Automation does bring about changes in the routines and procedures of the library (see for example Bergen 1988; Hahn et al. 1987; Hoffmann 1989; and Saffady 1989): naturalistic inquiry looks at the experience from the viewpoint of the participant to bring about understanding of the event.

Unlike quantitative research where the goal is to produce a replicable study, one in which two researchers working from the same data arrive at the same conclusions, naturalistic inquiry is intended to produce a unique theory grounded in the situation or event under study. (Mellon 1990).

The method for gathering material in a naturalistic inquiry varies from study to study. Some studies include in depth interviews and case studies as well as participant observation. This study was completed using semi-structured in-depth interviews. Mellon (1990) stresses that naturalistic inquiry should be approached in a disciplined manner:

Observation, interview, and personal documents are the basic tools by which naturalistic researchers gather data. ...While methods of naturalistic inquiry are bounded only by the imagination of the researcher, their application should be as rigorous and empirical as the more traditional techniques of the quantitative researcher. (Mellon 1990).

In contrast, quantitative researchers approach their investigation by identifying the literature, stating a hypothesis to be proved, designing the study, carrying out the research and then writing up the results:

Quantitative researchers proceed one step at a time. After an initial problem is stated, they identify, read and summarize all related literature. From this, the explanation of a phenomenon that they expect to prove, or the hypothesis, is developed. Next, the study is designed. ...Data is (sic) then collected and analyzed following this design. After the findings are determined, the research study is summarized in a written report. (Mellon 1990).

Berg (1995) discusses methods of investigation as being neither simply theory before research or research before theory but as a blend in which:

You begin with an idea, gather theoretical information, reconsider and refine your idea, begin to examine possible designs, reexamine theoretical assumptions, and refine these theoretical assumptions and perhaps even your original or refined idea. (Berg 1995).

Reviewing the literature then becomes an ongoing part of the process for the naturalistic researcher:

When field work is complete and the grounded theory begins to emerge, naturalistic researchers turn to the literature to see how their work fits into the framework of what is already known. (Mellon 1990).

The literature review and the analysis of the material are then paired together and one feeds into the other quite smoothly. In this particular study, some review of the literature was carried out quite early on. It was only after the interviews had been completed and the analysis had started that it became apparent that some of the literature gathered was not appropriate to the development of the material. What had seemed obvious and germane initially was in view of the actual interview data no longer relevant. For example, Ritchie (1988) takes a light hearted look at management education in library schools: although it added to the researcher's overall knowledge of what is happening it was not a key text for the research. Further searches of the literature were then carried out and regularly updated.

Naturalistic inquiry, therefore, provides an effective means to explore in depth the whole area of training within the public library context. Further field work may be required to clarify or amplify the points made in the initial work.

2.4 Background Preparation

Once the decision had been made to conduct the research using interviews, some background reading in methodologies, design of questionnaires and interviewing skills (see for example Lofland 1971; Bogdan and Biklin 1982; and Hakim 1987) was undertaken. As well, at this stage a decision on the sort of information to gather and which levels of staff in each library would be interviewed was made.

In all, 73 interviews were held with 77 individuals. In England a group interview with four senior managers was arranged. During the course of this latter interview two of the managers were called away to deal with a crisis so in fact the interview was substantially conducted with the two remaining managers. In Canada, one interview, which was used to provide background information, was conducted with two senior staff members in a library that had not yet been automated. In all other cases the interviews were with a single individual. In all, thirty-three interviews in Canada are used in the study and twenty-one interviews in England. Seventeen pilot interviews were conducted in England before the interviews were undertaken in the test libraries.

The following table demonstrates the managerial level of the interviewees:

Table 1
Study

	Canada		England	
	Pilot	Main	Pilot	Main
Senior Manager	0	18	7	15 ¹
Middle Manager	0	14	7	5
Other (SLA)	0	1	3	4

Interviewed but not used in the study

Middle Manager	0	3 ²	0	0
Totals	0	36	17	24

¹ This figure includes 4 senior managers who agreed to be interviewed as a group.

² This figure includes 2 middle managers who were interviewed together.

At the middle manager level in Canada there were two interviewees who had completed a library technician³ programme and four interviewees who had neither a technician's nor a librarian's training. All other middle managers interviewed in both countries were professionally trained and qualified librarians.

At the 'other' level, in Canada the one person interviewed was a senior clerical in acquisitions while in England the four interviewees were all Senior Library Assistants (SLA).

The senior librarians who agreed that interviews could be held with their staff members were initially contacted by letter setting out the overall aims of the study, the number of interviews to be conducted and in broad terms those staff who were to be the interviewees. Some telephone calls expanded the information given in the letters and determined dates for the interviews. In future, it is suggested that the initial contact be by letter followed by a telephone call to establish the dates for the interviews. In England the researcher had a set timetable and requested interviews during a particular week: this in practice became quite unmanageable with responses to letters being slow to come in or letters going astray. In Canada letters went to all the selected libraries and which stated that the researcher would telephone during a particular week to set up the interview times. This proved to be a more successful way of making the initial contact and it is recommended it be followed again in doing a further study.

2.4.1 The Interviews and Interviewing

Interviews were the prime data collection method for this study. This was the most appropriate method to gather the material and did generate a wealth of raw data. Other methods of data collection were considered but rejected: a mail out questionnaire, for example, was proposed in the early stages of the research. A review of the proposed questionnaire made it evident that several hours would be necessary for completion: the return rate would therefore be very low. Equally so it would have been difficult to carry out any in depth follow up on the questionnaire material. Participant observation was also a possibility but discarded as the numbers of

³. The library technician programme is a two year post secondary school programme given through the provincial community college network. Courses cover the full range of library skills, i.e., reference tools, audio visual equipment and maintenance, cataloguing and so forth, with the emphasis on the practical skills involved rather than management or planning skills. A number of people opting for these programmes do have undergraduate degrees although this is not a programme prerequisite. See for example Sheridan College at: <http://www.sheridanc.on.ca/lit/>

libraries in which observations could be made would have been very limited. The interviews were then found to be the best vehicle for conducting the research and provided a balance between open and closed question areas where the interviewees could offer personal opinions as well as information on the process.

The term interview is interesting in its own right:

The term "interview" is constructed out of two words, "inter" and "view". To "view" means to look at, to have a perception of. "Inter" means between two objects or points, as in inter-city transit. Therefore, the term "interview" refers to the act of perceiving as conducted between two separate points: in the present case, between two separate people. (Lofland 1971).

The interviews were conducted with individuals rather than groups except in one case where a group interview was requested and to which the researcher agreed. As Mellon observed:

In-depth interview is often chosen as the primary method by which to study the subjective view participants hold of a particular situation or event. ...And in combination with other naturalistic techniques such as observation or document analysis, in-depth interview provides rich relevant data to supplement or expand the researcher's understanding of the research situation. (Mellon 1990).

The interviews were semi-structured in nature and a mix of open and closed questions was used:

The standardized open-ended interview consists of a set of questions carefully worded and arranged with the intention of taking each respondent through the same sequence and asking each respondent the same questions with essentially the same words. Flexibility in probing is more or less limited, depending on the nature of the interview and the skills of the interviewer. (Patton 1990).

While all interviewees were asked the same questions, the wording did vary from interview to interview depending on the position of that person within the individual library: some terms used were obviously unfamiliar to SLA's but exceedingly familiar to middle and senior managers (for example, performance appraisal). The questions relating to the introduction of the automated circulation system, however, were not asked of the reference librarians interviewed or of those who would have had no direct experience of that process. The wealth of material that was collected in this study would have been difficult to assemble by any method other than the semi-structured interviews.

While the interviews were structured to follow a preset direction and questioning, there was some opportunity to allow the interviewee to comment freely on a number of topics. Lofland has termed this an unstructured interview:

One such flexible strategy of discovery is termed the "unstructured interview" or "intensive interviewing with an interview guide". Its object is not to elicit choices between alternative answers to pre-formed questions but, rather, to elicit from the interviewee what he considers to be important questions relative to a given topic, his descriptions of some situation being explored. Its object is to carry on a guided conversation and to elicit rich, detailed materials that can be used in qualitative analysis. Its object is to find out what kinds of things are happening, rather than to determine the frequency of predetermined kinds of things that the researcher already believes can happen. (Lofland 1971).

The interview schedule can be found in the Appendix. The questions are divided into broad sections that were designed to gather:

1. some brief background on each individual in order to provide a context for his/her remarks,
2. information on IT in general terms
3. IT in use in the library
4. training in the library
5. the automated circulation system and training for it
6. the impact of training, the impact of IT and how the two fit together
7. evaluation of training

These broad areas were chosen to give the guided conversation a structure from which information would flow easily and in a logical sequence building up the data from the general to more specific areas. The researcher's initial reading of the literature indicated that while there is information on the use of IT in public libraries, it tended to be on specific systems (see for example Ballard 1988 or Batt 1992) or if about training how a particular system was implemented (see for example Buck 1986; Dickmann 1990b; or Pringle 1988). There appeared to be a gap that this study attempts to fill. Since the initial readings were completed however the very rapid advance in use of IT has generated many articles in both the popular and the scholarly library journals especially in regards to using electronic discussion groups, CD-ROM's and the Internet for reference work.

Questions that have relevance relate to the introduction and continuing use of IT in public libraries. In the literature (Johnson 1991; Myers 1986; Pringle 1988) these topics are discussed but the areas that the researcher wished to examine in more detail were:

1. whether the role of middle managers is expanding or diminishing within the organisation and whether this is a result of the introduction of IT
2. whether job boundaries between professionally qualified staff are blurring with staff who do not have that qualification, and whether this is a result of the introduction of IT
3. whether deskilling of staff, particularly clerical staff, has occurred and whether this is a result of the introduction of IT

In designing the questionnaire the researcher consulted a number of texts both about design of questionnaires and conducting interviews (Platek et al. 1985, for example). Further, the researcher also met with a member of the Sociological Studies Department at the University of Sheffield to go over the design as well as having a number of meetings with the departmental supervisor and informal meetings with other researchers to discuss the questions and their intent.

2.4.2 Problems with Questions

The questions were designed to be as unambiguous as possible and to utilise terms common to the two countries. This was on the whole successful although some questions proved to be ambiguous for some respondents. Terminology proved to be very similar in the two countries with only minor variations, circulation desk in Canada Vs lending desk in England for example. What was perhaps more interesting was the interpretation of the questions by the respondents.

One question was:

What further IT applications are in the library and in your department?

This question was often answered in very narrow terms: the interviewee would confine his/her response to his/her own department and not consider the wider applications within the entire library system although urged to do so. In some cases this was certainly due to unfamiliarity with what items of equipment might be available in other departments.

Many respondents were unable to distinguish in their answers between a new skill automation may require and the training IT requires. The first response was often keyboarding skills: few interviewees made the connection that typing skills are very similar and for some levels of staff keyboarding would not in fact be a new skill.

A further area that proved to be problematic was in reference to this question:

Are there other methods that you use to assess training needs?

The word "assess" was the problem here. The section in which this question appears is on the determination of training needs within the library. It was surprising to the researcher that in several interviews the interviewees choose to respond to questions on methods to assess training needs by starting to talk about the evaluation of training. In the context of the interview and the line of questioning that the researcher had established at that point, the interviewees appeared to interpret the two terms as though they were one: assessment equalling evaluation. Of course, the dictionary definition of assessment is to evaluate so it is reasonable that the term will be interpreted that way. At this stage in the interview, however, it was the methods to assess, or determine, training needs that was under inquiry not methods of evaluation. Evaluation of training, that is whether the goals set for the training have been accomplished, will be discussed in depth in Chapter Nine.

In reference to this question, particularly in relation to IT and its training needs, the interviewees in illustrating their answers would often resort to listing what training courses had been offered within the library, chiefly in house courses, as examples of what IT training was given. This may have been the only IT training with which they were familiar at the time the interviews were carried out.

A further confusion in terminology arose over the term e-mail: many interviewees asked for a definition of e-mail. In fact, the use of the term e-mail was perhaps the most difficult as many libraries, in the early 1990's, used only the internal communications system within their automated circulation system to send messages to their branch libraries. In Canada many libraries at that time did use a commercial electronic mail facility, Envoy, particularly for ILL services. No one in the Canadian libraries however mentioned Envoy as a tool available to the staff. A more extensive network employing e-mail, through BitNet or Janet, for example, to communicate with colleagues across either country was not common. As this term had been chosen as being commonly used, at least in the literature or as a generic term, the researcher

did find it curious that they were not more familiar to the interviewees. This situation has certainly changed with many librarians participating regularly on email discussion lists, communicating with colleagues across the country and around the globe by email, usenet groups and with their own World Wide Web pages.

Any research project is fraught with concerns over the use of language. Language and its use is a critical factor in the research process that all measures need to be taken to ensure that the questions accurately reflect the purpose and intent of the study without unduly influencing the respondents. The analysis of the responses following the pilot interviews is equally important: it is here that it becomes clearly evident what confusion over wording or what inconsistencies and biases have crept into the process.

As these syntactical problems occur within the analysis in the individual chapters they will be discussed in more detail and confusion arising from the misunderstanding of terms will be given in context.

2.5 The Pilot Interviews

Seventeen pilot interviews were held during July-August 1990 in three library systems in England. The libraries in this group were an outer London borough and two metropolitan areas. A county library was approached to participate but was unable to do so. These libraries were suggested as being approachable by researchers, within easy travelling distance and at different stages in the automation process.

The interviews were tape recorded and while the tapes were not transcribed the interviews were summarised and a lengthy report written on each of the libraries. After the first two sets of interviews there was some time available to contemplate and rethink the questions used and to determine where they should be changed, dropped or expanded. In the third pilot library there were some minor modifications of the questions used. Up to this point there were no questions specifically on the role of middle managers, the blurring of job boundaries or on deskilling. It was the responses from interviewees in the first two libraries that served as an alert to these issues which have formed a major part of the finished thesis.

The automated circulation systems chosen by the three pilot libraries were Plessey, BLCMP and CLSI. One of the pilot libraries had only nine months previously gone on stream with its first automated system. The second library was a year into its second automated library system moving from a hard wired system first installed in the mid 1970s to an integrated system. The third library moved from a manual Brown system in the mid 1980s to an automated circulation system: there were some indications that upgrades to the system would very soon be necessary.

Themes explored in the interviews ranged from the apparently simple - how is training defined - to the more complex: questions of professionalism, deskilling of work for library assistants, and the evaluation of training. Generally speaking, the staff in these libraries expressed opinions that demonstrated that the management was serious about training: its purpose and the ways in which they go about ensuring that training is done. However, at the same time there were reservations expressed that not enough training is provided and that it is not done in any consistent or co-ordinated way. One senior level librarian, in fact, stated that the only systematic training in his/her library authority is the induction training completed for each new staff member. After that each department is expected to co-ordinate training for itself.

Other general comments that came from this set of interviews concluded that little co-operative training is offered among libraries within a particular area or city. A further comment was on the concentration of training for IT which in turn caused basics of service (how to use manual indexes for example) to be glossed over. Thirdly, each of these libraries had created a position for a systems co-ordinator: in one library this position was combined with that of deputy director. This clearly indicates that some change in the general structure and staffing of libraries is taking place. Several staff also commented on the need for a further position: that of training co-ordinator who would not only co-ordinate the training planned and carried out in each library system but also be responsible for individual training plans.

From this information, clarification of topics to be explored in the later interviews and which is discussed in the thesis came to the fore. Discussion on these themes includes computer based training, evaluation of training itself, and training for trainers. As well, organisational structures were seen to be shifting in response to staffing changes brought about by the technology in use in the libraries that affects both professionally qualified staff and other staff members alike.

While the overall nature of the questions in the final study did not change radically from the pilots, the gaps in the material did become evident and several questions were added

specifically related to the definition of training, the role of middle managers, and the deskilling of clerical level staff.

Two of the interviews undertaken in Canada were not included as part of the formal study. The first of these was conducted with the co-ordinator of public library services at one of the provincial libraries. In this case the provincial library while responsible for co-ordinating library services for the public and school libraries in the province does not offer any direct services, such as circulation, reference or children's services, to the public. They undertake the cataloguing and maintenance of a union catalogue for the province but had not established, at the time of the interviews, any province wide policies regarding automation for the public libraries. In the second case, the two librarians interviewed were active participants in the process to automate their library. When this interview was held in the spring of 1991 that library was still at least one year if not slightly longer away from preparing a tender document for vendors of automated library systems. The information that these three individuals shared with the researcher was useful to filling in background knowledge about the overall public library operations in that province.

2.6 Methodology in Action: Gathering the Datum

Slater states that:

Qualitative interviews span a spectrum from operation within a relatively structured framework to the free interview. (Slater 1990).

The semi-structured interviews each averaged sixty to seventy-five minutes. All of the interviewees were very generous in sharing their views. All of the interviews in the main study except one were tape recorded and then transcribed. In the one case where no taping was done, the chief librarian of a Canadian library requested that only hand written notes be taken during the interview. While the information covered in the interviews, by and large, tends to be public rather than confidential information, the researcher had in requesting the interviews stated that neither the individuals nor the library systems would be identified without permission.

A system of coding was then developed which would identify each library studied. Therefore, the codes represent information about the country and an indication of the name of the library system participating. In quoting directly from the respondent's replies, the respondent's job title is also included to indicate the level within the library that person is working. All Canadian libraries include a C in their code while all libraries in England include an E as part of the coding. The interviews were conducted in England between September and December 1990 while the Canadian interviews were conducted in February and March 1991.

In England the libraries used in the study were selected from the then current (1990) Library Association directory of member libraries. A systematic sampling process was used to develop the pool of fifteen library systems from which the final group were selected. Not all libraries in this pool were suitable as many were undergoing difficulties, particularly with severely reduced budgets, which prevented them from participating in this study. Nine library systems out of fifteen were unable to co-operate in the study. The reasons given for not participating were:

1. being in the process of bringing in a automated circulation system,
2. having no automated system,
3. being in the midst of an organizational review and that the time commitment to do the interviews was beyond their resources,
4. pressure on staff making it impossible to participate
5. substantial cuts in both staffing and budget which made participation impossible.

It would have been fascinating to have been in on the ground floor of a library actually going through the process to automate their circulation system but this was not possible. Equally a library where radical organisational changes were taking place would have provided a different perspective on the whole process of change within the organisation.

Physically Canada is such a large country that it was impossible for a single researcher to examine libraries from all areas of the country. The researcher was offered office space by the School of Library and Information Studies at Dalhousie University in Atlantic Canada and so was able to use that as a base. However, the libraries in that area of the Canada were considerably further behind, with one exception, in the automating of their circulation area: it was then necessary to consider doing the majority of the interviews in a neighbouring province. The second province selected was one of the most populous, easily accessible and within a

small area contained a range of library systems which included systems based only in an urban area as well as those which covered a wider rural area amongst their member libraries.

Senior managers in all the libraries selected were keen to be involved: one reason may be that, compared to England, little research⁴ on public libraries has been undertaken and the librarians contacted were eager to participate. Libraries were selected so as to reflect a wide coverage of rural and urban metropolitan areas. Further, the sample was sufficiently large and varied to illuminate the issues presented by planning and implementing training after automation.

Cross cultural differences are evident in several areas. Local government plays a dominant role in policies set for libraries in England whereas this is less so in Canada. As well it was discovered that management styles are different in the two countries with a looser style evident in Canada while a more regimented hierarchical style is evident in England. In terms of staff usage, staff who do not possess professional library qualifications are used more widely at all levels in Canada than they are in England.

2.6.1 Follow-Up Questions

Detailed budget figures, information about the staffing complement, libraries, population served and the number of branch libraries was not covered in the interviews. This type of information is readily available from annual surveys compiled in both countries. The statistical comparisons while interesting do not add to the knowledge of the processes for implementing IT or the training that is done for it. It is the training and impact of IT on the training which is the focus of the study not numerical or statistical comparisons.

⁴. Master level programmes in library science and information studies in Canada do not require a thesis or dissertation as part of the course. The number of doctoral students is very small and so the opportunity to participate in a study is limited.

2.7 Analysis and Conclusion

The interviews were transcribed from the tapes and the data then placed in broad categories by topic or question asked. Patton describes the process in this way:

Inductive analysis means that the patterns themes and categories of analysis come from the data; they emerge out of the data rather than being imposed on them prior to data collection and analysis. (Patton 1990).

As the interviews proceeded it was obvious that some major themes were developing. They included:

- a description and discussion of the technologies in use in the libraries
- the directions that both the directors and support staff see for future developments
- a discussion of the advantages and disadvantages of information technology
- and a discussion of the knowledge and skills required of staff in the automated library.
- the lack of evaluation of training
- how technology itself could be used in the training process
- whether co-operative training schemes exist
- what standards of practice had developed
- whether training of trainers occurs

The chapters that follow discuss the definitions of training, the applications of IT, the impact of IT on the individual and the organisation before examining the assessment of training needs, methods of training, evaluation of the training and the conclusions.

Chapter 3

Training Issues: Definitions

3.1 Introduction

This chapter reviews how the term training is defined in the library literature and by the interviewees. It will also consider the goals for training as perceived by the interviewees.

When someone says that someone is stupid and can't learn anything, I say they haven't been trained properly. Even if it is your husband trying to load the dishwasher. (COSC, Project Co-ordinator Technical Services and Acquisitions).

While expressing some exasperation, this comment, from a Canadian librarian, does sum up colloquially the essence of training. Without training no one can do his job as expected: training is one means through which people can achieve their potential in the organisation.

The Library Association created a working party in the mid 1970's to examine training. This working party produced a number of useful pamphlets which examine various elements of training and training practice. The original booklets have subsequently been updated and issued as the Library Training Guides (for example see Biddiscombe 1997; Whetherly 1994 or Williamson 1993).

The initial report of the working party (*Training in libraries* 1977) offered a brief assessment of what training needs are in relation to the individual and to a group of staff:

For individuals, training needs consist of the difference between their existing knowledge, skills and attitudes and those required for them to effectively discharge their existing jobs together with those which they can be expected to fill in the future.

The training needs of a group of staff are not always just the sum of individual needs. (*Training in libraries* 1977).

This statement supports the development of the individual staff member both in the current position and for future positions within the organisation. It is the potential of the person and the exploitation of the abilities that person already possesses which is being emphasised.

3.2 Definitions of Training

The 1977 report prepared by the Working Party on Training gave as policy statements:

1. Training, whether it be induction training, professional and skills training or developmental training, is of fundamental importance to all levels of staff working in all types of library, and provision should be made within institutions for schemes of training for their library employees.
2. Training is not a luxury ... To sacrifice training to short term economies is a failure of vision. (*Training in libraries 1977*).

Statements of this nature can be considered so obvious that they need not to be declared but they do provide a useful starting point to describe training.

Before looking at the comments of the interviewees, it may be useful to see how training is defined in the literature. A strict dictionary definition states that training is:

The process of bringing a person, etc., to an agreed standard of proficiency, etc., by practice and instruction. (*Collins English Dictionary 1991*).

Another dictionary offers a very straightforward definition of training:

Practical instruction or drill as to acquire a skill; the condition or process of being trained; the action of one who or that which trains. (*Standard College Dictionary 1988*).

Skills acquisition along with a degree of proficiency is the emphasis in these definitions.

3.2.1 In the Literature

In publications relating to business and commerce there have been an astounding number of titles relating to training published over many years. Items aimed specifically at the library and information field have, until recently, been less visible. One early work which examined training in the context of in house courses and programmes was Edwards (1977).

Edwards explains that education and training were often thought to be synonymous while in-service training was often closer to further education. His volume on the subject concentrates on in-service training seeing it as:

... part of the personnel management function of the good employer, designed to secure not only maximum initial and continuing efficiency for the organization, but also the full realization of the potential of the staff; their motivation and involvement with the aims of the organization and their personal job satisfaction. It will be orientated towards the library, the individual job and the present and future needs of the staff in that order. (Edwards 1977).

The definition of training is assimilated very easily with definitions for the goals of training: separating the two is far from easy. Edwards (1977) has placed the emphasis not so much on skills acquisition but on the goals of training ensuring that training remains clearly a management responsibility. Edwards states that training should contribute to the overall goals of the organisation: staff training is not simply preparation for the skills needed right now but also to anticipate skills staff will require for the future. Lastly, Edwards states that training will increase job satisfaction.

A less ambiguous definition in the library context comes from Prytherch:

Training in libraries is the systematic instruction of staff in new attitudes or new skills; random bits of continuing education or mere learning on the job cannot be called training; the term implies a scheme of instruction which is more-or-less formal and on-going, which is planned, systematic, consistent, pervasive, and monitored to measure its effectiveness. (Prytherch 1985).

Here again there is emphasis on skills acquisition but equally there is also an emphasis on the development of new attitudes, and that the training itself be planned, consistent, on-going and monitored.

The literature of training (Creth 1986, Edwards 1977 or Prytherch 1988 as given above for example) emphasises skills acquisition as a pivotal element of the training process. This literature also stresses that training is part of a planned process and that it is consistent. An improvement of performance or the development of particular attitudes is also seen as part of the remit of training. Effectiveness, that is, was there a transfer of the training, is not emphasised so clearly in this early literature.

While the emphasis on skills acquisition does come out quite clearly from the interviewees some of the other elements are not mentioned in any depth. It is here that the rhetoric and the reality do not mesh neatly. Only one person, a senior manager, talked of the on-going nature of training and that it should start from day one in the library:

Has to do from day 1 with orientation, teaching attitudes, concepts - it doesn't ever stop. It is an on-going process. (COB, Chief Librarian).

It was unusual to have any of the interviewees stress the consistency and pervasiveness of training unlike the literature which constantly reinforces this aspect. This may have been implied in the comments but was not always specifically addressed. One senior manager who did, however, said:

Training is something that is almost more pervasive than the computer technology itself in terms of the department. I see it as a management responsibility right the way through the organization: it starts from the day somebody joins the organization and finishes when they leave it. (SE, Deputy Director).

It is, however, Bramley's (1991) definition which is most comprehensive and which best expresses this researcher's own definition:

1. Training should be a systematic process with some planning and control rather than random learning from experience;
2. It should be concerned with changing concepts, skills and attitudes of people treated both as individuals and as groups;
3. It is intended to improve performance in both the present and the following job and through this should enhance the effectiveness of the part of the organization in which the individual or group works. (Bramley 1991).

This definition explains quite clearly that training is a planned process and is concerned not only with skills acquisition but also with concepts and attitudes. The end result is greater effectiveness of the individual and of a work group in the organisation.

Interviewees in both countries overwhelmingly limited their definition of staff training to the skills a staff member would need in order to do the job. In other words, as some interviewees expressed it: the tools and knowledge to do the job.

3.2.2 How the Interviewees define Training

Each interviewee was asked:

What do you understand by the term staff training?

Responses to this question were similar in both Canada and in England although there are many individual variations dependent upon local situations and the level at which the interviewee is employed within the organisation. As training is more clearly concerned with and driven by skills acquisition the researcher had anticipated that the definitions offered would be similar in the two countries. Some interviewees included in their definitions much broader concepts that overlapped with definitions of staff development and aspects of continuing professional education.

Staff development aspects, for example, are more ambiguous concepts and therefore harder to visualise for a number of the interviewees. More clear cut differences are seen in the responses to questions regarding specific practices of training or in discussions of the impact of the training.

The senior managers interviewed stated that acquiring the skills to do the job was the primary definition of training. An additional four managers saw a further dimension in giving an overview of the system as part of the definition. A Chief Librarian in one of the English libraries said that training was:

... explaining to people what is required of them, how those requirements fit into the rest of the system and providing a practical opportunity for them to use the results of the training with the idea of enabling them to do a better job than they were perhaps able to do before. (HE, Borough Librarian).

A Director of Arts and Libraries said:

Allowing people to acquire the skills and the knowledge and the confidence to do their current job properly. (SE, Director of Arts and Libraries).

The way one of the Canadian interviewees expressed it was:

Providing staff with the skills that they need in order to understand and use the system, the technology and the procedures that we require of them (COB, Head of Adult Circulation).

Two senior managers, one in each country, who had responsibility specifically for personnel had similar thoughts on training and its definition.

In Canada this officer, who was not a librarian but a personnel specialist, had previous work experience with a further education college and with a government agency. While she states that training is skills based she does also emphasise the relationship of training with technology:

[Training is for] those who have less adequate skills for the position that they are in, [to assist them] to deal with the new technology and to be able to bring people up to a level that the new technology would demand. (COL, Manager Personnel Services).

Her statement quite explicitly emphasises that technology is a conspicuous partner in the training process: knowledge of the technology and technological processes are as important as the skill acquisition.

The second personnel officer, in an English county system, was a trained librarian who for a number of years worked in a specialised reference department within the same library system before transferring to this post. She commented that the personnel aspects of her job took considerably more time than did the training aspects and that this did not show any signs of changing in the near future. She did however take a fairly broad look at training linking it to staff development:

... job training for the work for which they are actually employed to do at that point in time. And then, going a step further looking at individual training needs and development which is looking beyond what they actually need to know to perform their job today. How they might develop management, supervisory skills for what they may possibly aspire to in the future. (LE, Training Officer).

Staff employed at the middle management and senior clerical levels in the libraries also had similar definitions of training. Three typical comments here are:

Preparing staff to be able to function in their own position and also to give them background on how the library operates as a whole. (CNSD, Library Assistant).

Enabling staff to gain the expertise that they need in order to do the duties which are involved in their job. (LE, Assistant Librarian, Computer Services Department).

Teaching people the job. (HE, Senior Library Assistant).

As can be seen by this very small sample of quotations, the ideas expressed are similar whether it is a senior manager, middle manager or counter assistant speaking. The interviewees see the acquisition of the skill base to do the job at hand as the first priority for training.

In defining what training is the interviewees often widened the scope of their responses to include:

- knowing the background of libraries and how they operate
- career development aspects
- being able to put the training into practice on the job
- utilisation of multiple methods to impart the training to the best advantage of the person being trained.

An orientation to the library service as a whole as well as the skills to work with the automated system were amongst the other definitions offered. Equally important was the matter of bringing the staff member to the level the new technology demands and knowing why something is done in a certain way. Only occasional mention was made by the interviewees of the following elements: computer literacy or the development of skills for either promotion or individual career development. Staff satisfaction or better customer service was also mentioned only in passing as being components within training.

The information offered in the responses does not differ significantly in the two countries. Ways of phrasing the information given do certainly differ but the ideas expressed remain very similar.

Interviewees often stated that training was skills based but then continued during the remainder of the interview to offer a somewhat broader definition. It is this somewhat broader definition of training, i.e., that which combines skills acquisition with individual development, which prevails in the interviews. Acknowledgement of the skills necessary to carry out the job are implied in all the responses but most people see a wider scope for training than simply skills acquisition. A Canadian senior manager touched on this by saying, training is:

Teaching people new skills, enhancing skills that they already have, presenting new ideas for debate and possible consideration and implementation and training for future developments. (COM, Director Branch Services Division).

This senior manager acknowledges that as a manager she has responsibility to ensure that skills acquisition for the job at hand and the development of skills for future jobs is undertaken. There

is an obligation to look at the staff member as a whole person with abilities that the library can develop. Evidently as training is broadly defined then the library with its day to day routines, policies and procedures becomes a learning environment. It is this holistic approach to the learning process and the environment for learning that becomes important. The staff are open to new ideas and participate in the expansion of their jobs so that they in turn can contribute to the organisation.

This idea is, in turn, echoed by the chief administrator in a county system who shares this very wide view of training:

... there is a whole wider move towards personal development and if it works properly, if it is a properly co-ordinated planning process between the individual and the department matching the skills to posts now and in the future. Which is very ambitious but it should be I think. (SE, Director of Arts and Libraries)

These examples demonstrate that the interviewees in this sample find it difficult to separate what is training, the definition, from what they want the training to accomplish, or the goals for any training programme.

3.3 Goals of Training

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The definition of training is united with definitions of the goals of training: to what end is the endeavour directed. Responses from interviewees in both countries are very similar with most stating that the goals of training are:

1. To perform their job with skill and understanding;
2. To feel comfortable with all facets of their position;
3. To understand what you are doing and why you are doing it.

Eight of the senior managers spoke of the effectiveness of service as a goal for training, six of the middle managers spoke of staff being comfortable in their positions while two of the SLA's specifically mention what might be called "the confidence factor". Beyond this there was no consistency in the responses: every individual interviewed had a particular goal that he/she wished to see the training process accomplish.

Creth (1986) suggests that the dimensions that each employee must master in order to perform effectively are:

1. **Knowledge:** the information needed to perform a set of activities efficiently and effectively.
2. **Skill:** the techniques, the approaches, and the styles of translating knowledge into action or practice.
3. **Ability:** the intangible qualities or characteristics that are necessary for performance and are often referred to under the rubric of "motivation" or "attitude".
(Creth 1986).

These three elements combine aspects from both the definitions of training and what could be broadly defined as the goals for training. It is quite clear therefore to this researcher that the two can not really be easily separated or discussed in isolation. Webb (1993), too, expresses this intertwining of definition and function of training as being a total process which starts when someone joins the staff:

The total process of staff training and development starts on the day that a new member of staff joins the organization. If they are to be successful they will need to learn about the organization they are joining, and the environment in which it operates, as well as the specifics of the library and information department of which they are to become a key member. (Webb 1993).

Some of the senior managers also linked training and the goals for it with the need to start when a new employee begins: from day one. Training as well needs to be tied into the organisational goals as Johnson says:

Ease of learning the new technology is a key factor in acceptance. Training is most successful if it is linked to the library's specific organizational context and tied to day-to-day operational needs. (Johnson 1988).

Only a few individuals expressed the desire to see skills developed which would allow staff to contribute to the organisation itself or to the overall goals of the library. In examining what makes a company excellent Peters and Waterman (1982) make the point that shared values are one of the key elements in making companies such as IBM excellent. While general organisational goals for libraries have existed for many years, it is only now that library administrators are turning their attention to the development of goals in service areas. Consistency of service across the board, performance indicators, concern with MARC standards for cataloguing records were all goals related to training that interviewees brought up time and time again.

The manner in which training for new staff is organised has changed. In a manual system, time can be taken to slowly introduce all elements and responsibilities of a particular position.

Technology however has accelerated all the processes and therefore staff must be able to absorb instruction and direction very quickly in order to cope with the demands of a particular position.

Training must also include more than simple skills training for staff to be effective. As Creth (1986) suggests the intangible skills, or as she expresses it, 'ability', are equally important for the staff member to acquire or for the employer to search out when filling a position.

Goals emphasised by those interviewees who expanded the definition of training beyond skills acquisition included the following comments:

... involves the confidence of everybody that is actually dealing with the system. ... if it is not there it shows you up as an ineffective organisation in the mind of the user. (GE, Deputy County Library Arts and Museums Officer).

... to have a more effective service for the public, efficient and totally relevant. The other aspect of training for staff that they stay relevant within their jobs because the jobs do change and if they don't keep trained not only will they not be promoted, be better at the job, they may not have the job. ... We have put a lot of money into you as a person and we want to keep you, so we have to keep you trained because your job is going to change. (COO, Deputy Director).

Peak performance, confidence, effective service to the public, satisfying work environment: these comments reoccurred many times during the interviews. Confidence of the staff to deal with any situation, the comfort of the staff in using the equipment and explaining its uses to the public, the effectiveness and the efficiency of the system are all goals for the training that are seen throughout the organisational spectrum. The emphasis is definitely on training to ensure that these goals are met:

Training has one of its goals improving efficiency and effectiveness of staff. This brings us to the issues of performance monitoring and evaluation. (Myers 1986).

Typically, job training has focused narrowly on providing instruction in specific information, procedures, or equipment required in the performance of job tasks. While these aspects of training will always be essential, the results will be inadequate to meet library needs if a broader context is not provided and if the needs of the individual employee are ignored. (Creth 1986).

Training is a serious business for libraries.

3.4 Conclusion

The definition of training, therefore, as given in the literature matches that offered by the interviewees. Although the interviewees initially volunteered the development of skills to do the job they did in further questions define training much more broadly. It does match most closely Bramley's definition which can be briefly summarised as:

1. a systematic process
2. changing skills, concepts and attitudes
3. improve performance now and in the future
(Bramley 1991).

The automation of libraries appears to be changing the training being given and therefore the goals for that training. Skill levels required of clerical staff, the role middle managers will take in automated environments, and the reorganisation of library departments to better reflect the changes that automation has brought to libraries are three of the themes that run through the interviews.

For many years to come there will be an overlapping of traditional skills and automated skills training: libraries can not afford to ignore either in their training programme. The goals of training also change depending on the amount of automation that is in place.

Those libraries that had only just automated were, as is natural in the implementation phase, concerned with reactions to automation from both the staff and the public. Staff were also very focused on getting to know the system as thoroughly as possible as quickly as possible. Libraries that had upgraded to a second or third system saw different goals for training in their organisations.

Chapter 4

Applications of Information Technology

Libraries generally turn to computers for relief from rising costs and increasing backlogs. They use the new technology to meet economic need and also to provide technological opportunities. The aim is to improve existing services, to introduce new services, and, ultimately, to apply computer technology to areas of management decision making. Libraries continue to expand the sophistication and number of computer applications. (Johnson 1988).

4.1 Introduction

This chapter examines the understanding interviewees had of information technology, that is, what it is and what the interviewees anticipated the technology would give them. Reasons for automating are given along with an indication of the routes taken by the libraries in the study to introduce automation. Applications of technology in current use are discussed. An indication of applications the interviewees would like to see in the future is also discussed. Perceived advantages and disadvantages of information technology as seen from the perspective of the interviewees are also included in this chapter.

Information technology is sometimes seen as a living creature that must be tamed before it can be conquered as this interviewee stated:

There is this feeling sometimes that new technology is an uncontrollable Frankenstein's monster that gets away from you ... but it is a monster that we have created or bought and once it is there you can't just shoot it and start again. (LE, Deputy County Librarian).

Information technology is an increasing part of all library operations and this is demonstrated not only in day to day activities but also in the planning and implementation of long term strategies. With the automation of technical services departments, the lending area and the use of on-line reference services the staff are very much aware of how the technology has changed their approach to work. As Martin declares:

As information technologies become more widely available, libraries must adopt them. In no case can they replace the traditional functions of the library; the new information

technologies are an add-on costing more in time, staff and equipment, but the value will be considerable. (Martin 1989a).

Circulation or lending services, reference services, collection development, children's services and cataloguing are some of the traditional departments in the library. Although these sections will continue to exist in the ways in which they have for many decades, the technology has changed and altered the delivery of these services. The implications not only for administrators but also for staff members working on the front lines are significant. Cost implications are significant: the equipment itself and its installation for a start along with the day to day running costs and maintenance. Other costs that will require consideration are staffing during the changeover period, staff training, and hiring of additional staff for data input.

One advantage for administrators in having information technology, particularly bibliographic data capture systems, is being able to have immediate, accurate information at their fingertips. Service objectives can then be planned based on a solid statistical base knowing which parts of the collection are actually being used. Staff training needs can also be planned and targeted more accurately at those who require them. For example, if the numbers of inquiries made increases, then more staff will need training in conducting a reference interview in order to assist the public.

The applications used by the libraries in this study in Canada and in England will be discussed in greater depth in this chapter. Some operations utilise both computer and telecommunications applications: online searches are one example that combines both.

4.2 Information Technology

What is information technology? One definition of information technology (IT) is:

A broad approach to the handling of information within a business by applying computing and telecommunications technology. (*Information Technology* 1990).

Interviewees were not specifically asked to define information technology but what they perceived as falling into this area became evident during the interviews. Many responded only in terms of the technology, that is anything that could be broadly classed as having to do with a computer, and that they themselves either used or knew to be in the library. Others replied in

more general terms about technology that has radically changed operations, in libraries and other businesses, such as photocopiers and telex. One author who summed this process up very neatly said:

Although mechanical devices have been employed in libraries for many years, from the introduction of the wheel in the form of the book trolley, through lifts and typewriters to compactus shelving, photocopiers and power guillotines, it is the involvement of the computer that has undoubtedly had the greatest single impact, both on specific library activities and on the library as a total operation. (Allen 1984).

These types of mechanical and technological applications were certainly quite radical when first introduced, in the 1960's, but have now become so commonplace as to be transparent to both library and office workers: in effect, they have always been there. One interviewee was adamant that the technology should be so well integrated into the daily routines that it becomes invisible. The mechanics of how a book is checked out and what information is recorded is not the primary concern of the borrower: the borrower wants a quick and easy transaction.

The definition of information technology used in the interviews for this research was deliberately very broad in order to encompass the major applications that employ a computer to assist library workers in fulfilling the objectives of the library. This allowed a sufficiently wide margin to bring office automation (word processing applications, for example) and Kurtzweil machines for the blind into the discussion. However, the primary focus has been those library applications that are now regarded as mainstream: on-line databases, CD ROM, automated systems for cataloguing and other applications of this nature. Indeed, it can be argued that they are increasingly losing their novelty and are so common as to be unremarkable to library staff.

4.3 Level of IT Understanding

The extent to which an individual librarian needs to know in depth the full technical details of the technology has not yet been fully resolved. Some basic knowledge of the computer's operating system, file management and general computer know how is essential. In the initial stage of the interviews each interviewee was asked what level of expertise with information technology he or she had. A follow up question was:

How did you gain this level of expertise?

The most common response was "on the job" followed by reading, conferences, workshops and simply exploring the possibilities at home. As this interviewee said:

I'm moderately knowledgeable about IT and have gained this level of expertise entirely on the job. I'm well versed in the technology that we have but have very limited knowledge outside that. I've taken some courses but the vast majority has been on the job. I have my own computer and know that word processing package but that doesn't prepare you for the technology on the job as used in libraries. (COP, Circulation Supervisor).

This "on the job" learning will undoubtedly continue but the level of knowledge about information technology and the means used to gain expertise with it should change as more librarians receive broader technological training through their library school education or through continuing education opportunities.

Many librarians are familiar with particular applications, or more accurately are conversant with the applications that they use, but have not gone beyond those boundaries to explore what the technology can actually do for them. In developing a database of local community information for example, the librarian may know the sort of information that should be contained in the database in order to meet the needs of the people using the service but doesn't necessarily need to be a programmer in order to develop the database. Johnson emphasises this point by saying:

... Librarians, who are expected to have expertise in database management, computer system design and operation, and telecommunication. Librarians may be involved in the design of local user interface terminal screens and in defining local modifications of turnkey systems. (Johnson 1991).

What she seems to be saying is that while these skills are useful they are not necessary: knowing what you want the database to do is more important. On the other hand programming does become a useful skill when assessing systems and what they can do for you. This is an argument that is yet to be resolved: to what extent librarians need to know programming skills. Allen adds to this argument by stating:

Automation has caused changes in the balance among the different kinds of staff employed in libraries, and has required librarians to acquire new skills and to employ and work alongside staff with skills and training in such technical areas as electronics, system analysis and computer programming. (Allen 1984).

The balance between staff members with technical skills and those with more traditional skills needs to be maintained in the changing library environment. Staff members who hold both

technical and traditional skills will be needed. For example, the development and use of World Wide Web pages to publicise the library and its services will require trained staff to update and maintain the site. In addition to the training required in specific packages, skills and training in other areas such as graphic design will be required. Training is only one part of this process. One interviewee endorsed Allen's comment by saying:

The introduction of computers has changed everything: it has made a lot of changes for both clerical and management staff. Not only in the way you do things but also in the way you are forced to do things. (COP, Circulation Supervisor).

It can be argued that many librarians become too wrapped up in the technology and forget that the technology is simply a tool to accomplish goals and not a means unto itself:

New technology offers a dazzling array of new materials and techniques - and sometimes we get more interested in the technology for its own sake than in the use, the appropriateness, of that technology. (McKee 1986).

One Canadian librarian, in fact, echoes McKee's point by saying:

I think there is a tendency to get caught up in the machinery and the techie world and forget that much of what we do is dealing with people. It is easy to think about machines and whatever the latest gadget is and not provide the attention that the public need. (COB, Head of Adult Circulation).

The "techie" world can be quite seductive. A staff member can become so immersed in the technical details that the benefits for the rest of the staff and the public using the equipment or system are totally forgotten. The balance between technical skill and related expertise and the skills to use the machinery effectively with the public and other staff members must be maintained very carefully. As Fisher stated:

In businesses of all types and sizes, a gap exists between *having technology* and *having the ability to use it productively*. [Italics as in original]. (Fisher 1986).

The training implications are fairly obvious. One, there is a need to develop interpersonal skills to assist the public in defining their information needs. There is a second need to adapt and develop the functions of traditional librarianship to meet the changing requirements of the public.

It is apparent that in the developmental stages that there is an overtone that suggests that libraries are seizing the technology to some extent simply to have technology in place. Reasons given for introducing technology, however, are generally couched in the needs of the particular

library. For example, circulation had become unmanageable resulting in a need for better control of the stock or for better management information.

4.4 Reasons for Automating

When in the mid-1970's, Aberdeen City Library automated the circulation system, they listed their reasons as follows:

1. Inefficiency of the existing system
2. Inability of the existing system to cope with increased demand
3. Heavy staff costs in the number of staff needed to issue and discharge items, make reservations and write overdues
4. Irritation caused to users by the existing system

Other reasons given by Aberdeen to automate included a desire to take a new approach to the organisation and administration of the library which would involve the use of new technology; and secondly that any refurbishment of the central library would provide the ideal context in which to make changes. (Herring 1986).

Some of the reasons staff in the sample libraries gave for automating were more ambiguous than those given by Aberdeen. The reasons given were as follows.

4.4.1 Because it is Possible

"Because it was available" was common.

4.4.2 Contributing to Organisational Goals

Contributing to the organisation's goals is another reason sometimes given for automating.

4.4.3 Manual Systems can no Longer Cope

An additional reason given for automating the circulation process was that the circulation had reached the point where a manual system could no longer cope with the volume. Respondents in one of the sample libraries described how their Brown system overflowed the counter space making it impossible for the staff to work or for the public to return the items.

One of the problems just before the computer was brought in was the fact that we had Brown issue. It was literally falling off the end of the counter - it couldn't be accommodated. We've got rid of all that: now everything is done around a couple of terminals. (BE, Group of Senior Managers).

Another library in the study had gone through several circulation systems (Brown, photocharging, token) and one of the problems experienced was in simply knowing what item was where: stock control was impossible.

Circulation [was] chosen as first application as the Brown system was too cumbersome, then we went to a token system which leaves you with no record of what is out on loan. We also suffered tremendous losses while the token system was in operation. Panic set in and we went to a computerised system. (HE, Head of Technical Services).

The ability to cope with rising circulation is a very persuasive reason given for automating. The same numbers of staff are able to cope with the volume as the technology takes over the repetitive aspects of the manual tasks of filing, sorting and preparation of notices.

4.4.4 Improved Management Information

One spin off from the automation of the circulation system is the ability to generate data in a form that can be analysed and used as a planning tool for department heads and administrators. While management information was not necessarily a specific reason for automating, it soon became evident to staff that a wider range of information was available and could be fairly easily tapped.

4.4.5 Staffing Changes

For some library systems the intention was to reduce staffing levels:

The original intention of the introduction of a computerised, an integrated computerised system, was to save posts: that we would reduce the establishment. That in fact has not happened. ... we probably have needed more staff rather than less. (LE, Training Officer).

Another respondent stated that staff were reduced as a result of automation:

Circulation chosen first as there is the greatest impact here, we can offer a more effective service, deal with reservations speedily, have better information, and there was the possibility of reducing the staff that had been involved with the previous issue system. Staff was slightly reduced also partly as a result of an organisational methods study. (HE, Borough Librarian).

In practice it does not appear that staff posts were eliminated because of automation: staff have been redeployed to other areas in the library. This is a recurring theme that is discussed in several chapters.

4.5 Route of Automation Taken

Batt (1985, 1988, 1990) suggests that in the UK there is not a consistent pattern to the route of automation taken by public libraries. This is confirmed by the survey undertaken for this research. Nor does there seem to be any consensus within the two countries as to a particular route chosen. In general terms, however, the Canadian libraries started with technical services processes and circulation while in England cataloguing and online reference services were the first point of departure.

It is noticeable in both countries, however, that those who have waited the longest before automating have tended to opt for an integrated system rather than the stand alone systems that a number of libraries chose in the early days of library automation. In the late 1960s and early 1970s when over half of the libraries in this study were starting to automate, it was often only the stand alone systems that were readily available. As one librarian said:

Cataloguing [was] chosen as the first application because it was the one available at the time: it was more urgent to do it. Circulation systems available were at a rudimentary stage of development. (COM, Director Technical Services Division).

Newer systems are now integrated, that is, one in which:

... Several traditional library operations interface with a single bibliographic file. These integrated systems are designed to update a record regardless of the subsystem in use. The result is that the entire database stays up-to-date at all times. (Johnson 1991).

The advantage of a single bibliographic file greatly enhances these systems. On the other hand a stand alone system is a single purpose system:

The first turnkey systems, available in the early 1970s, were single-purpose products designed exclusively for library circulation activities. Newer systems are integrated components of full-phase systems and perform a variety of functions, from the generation of recall and overdue notices to reporting the availability of items in the online catalog. (Johnson 1991).

These stand alone systems generally refer to a single purpose system, that are only circulation or acquisitions. To add another function or to modify the original design in some way in order to link files is very difficult if not impossible. This has led to some inefficiencies and some duplication of files such as trying to link reservations to items on order.

One of the surveys by Batt (1990) confirms that the UK trend is towards integrated systems: circulation is the chosen starting point with a catalogue function then acquisitions being joined into the system. He predicted that this would be the route chosen by public libraries:

Without doubt circulation control is the most important task to automate for libraries installing systems, at least to the point where all major service points are connected. Then comes the catalogue, which more and more means the OPAC and finally acquisitions. That is the route which libraries using stand alone systems seem to follow. (Batt 1990).

Batt (1995) states that in 1985 only 29 library systems used an integrated system but by 1995 the figure had risen to 117.

This route, that is the choice of an integrated system, has been noted and is discussed by Saffady (1989). In tracing the history of automated circulation systems, Saffady discusses the precomputer use of punched cards, moving into batch processing of files, and then into real time online circulation systems. From this beginning preformulated, rather than custom designed systems, have been developed. (Saffady 1989).

In the Canadian sample libraries the first stage of automation in the early 1970s occurred in two areas: circulation systems (3 libraries) and in the technical services and cataloguing departments

(2 libraries). These are high volume areas and the ones where automated processes are easiest to implement. In the second phase, it was the catalogue (3 libraries) which was automated either as a book catalogue or online. In the third and most recent phase, library systems have upgraded or in several cases have started from scratch with an integrated system (4 libraries).

In England the picture is slightly different throughout the same period (1970 to 1990). The first functions automated were in the technical services and cataloguing areas (3 libraries) or in the development of online databases (2 libraries) while circulation (4 libraries) came in the second phase of automation. The third phase, which in 1990 was really only starting in England, is in the use of integrated systems (2 libraries). This is a small and indicative sample: it serves to illuminate the routes taken by public libraries in the decision making process prior to automation.

Johnson (1991) in her study of academic libraries in the United States found that half of the libraries she surveyed had automated the cataloguing department first, closely followed by circulation. General surveys of library automation (for example Boss 1984 and Saffady 1989) have concentrated on the function or type of equipment used rather than the route of automation taken by a particular library or group of libraries. This may be a worthwhile area for further research.

From 1970 to the 1990's other automation developments were taking place. The developments were often not clear cut. For example, in cataloguing departments there was a move from the card catalogue to several other formats - book, fiche, on-line, CD ROM and in the 1990's to a World Wide Web front end. In some cases a decision was made to run in parallel one or more cataloguing systems. Sometimes these catalogues were available only to the library staff, sometimes to the public as well. One senior librarian involved since the mid 1970's in the automation process in her library offered this timetable:

In December 1973 we closed the card catalogue, went to book form, in 1977 went to a fiche catalogue: both supplemented the card catalogue. We started to use automated authorities' files in 1977 and in 1979 orders were automated. In 1984 we moved to an online catalogue by which time the majority of the collection was in an automated format. (COM, Director Technical Services Division).

In these stand alone systems it then became a question of trying to graft onto the existing system some sort of acquisitions' module although here again the picture is not particularly clear cut.

Batt also outlines this unclear route of development in the UK:

Some [i.e., library authorities] are investing in IT at every opportunity ...However, these opportunities are not evenly spread across the country so that in some places much more is being done to exploit information relevant to communities through the use of computers and other IT applications. ... There are library systems where nothing is happening and seems unlikely to happen in the near future. (Batt 1990)

In those libraries where the decision has been made to go with an integrated system as the first system of choice for automation then everything (circulation, cataloguing, acquisitions, community information, for example) has come at once. This has not been without its own problems but staff in these libraries are all enthusiastic about the system they have chosen. Upgrading an automated system is certainly not problem free but generally the earlier automation has helped to smooth the way as a move was made from one system to another.

Keeping staff up to date with the technology and the changes in technology is the challenge seen by one person:

I think because we have been with automation, [the staff] were used to an automated system and when we migrated to another automated system, you know, we thought that they really [do] understand and they do but it is keeping them abreast of it - that's the challenge we face. (COO, Supervisor of Automated Systems).

Organisational change, personnel changes and reassignments are just three possible consequences of such a move. Existing staff may take on new responsibilities or be redeployed to another department or branch while new staff will have to be trained to work with the technology and the system. Support services may be a combination of circulation and technical service functions: this staff will need training for both aspects of their job. These questions are discussed in greater depth in Chapter Five.

4.5.1 Function First Automated and Why

Comments from interviewees are very similar in the two countries about why the chosen function was the first. These two comments, for example, are typical:

Circulation and acquisitions chosen as first functions as they are the most widely used applications. (LE, Lending Librarian).

Circulation chosen as first application because it was visible, the public thing to do: a step forward. (COL, Senior Cataloguer).

Circulation and cataloguing apart from being high volume areas are also well structured and understood: therefore, they are often the first areas chosen for automation. They are more amenable to systems analysis and therefore systematic solutions (Collier 1990).

One senior librarian stated that although circulation was the first area automated it was decided at the same time not to automate the card catalogue. They choose to rely on their circulation database for bibliographic information:

Circulation was labour intensive and could be automated but there was no need to do the card catalogue - it was easy to do without a retrospective conversion. (COO, Deputy Director).

It is easy for libraries to break down the particular routines associated with circulation and from close analysis conclude that an automated system will decrease bottle-necks, allow for faster response time to requests for materials on loan, provide more information to the borrower about items on loan and so forth. As Saffady says:

Circulation control is one of the most widely automated library operations, and it is often the first and simplest activity to be automated in a given library, possibly because circulation control systems bear an obvious resemblance to inventory management, retail charge card operations, and other transaction processing activities which have been successfully automated in general business applications. (Saffady 1989).

Both circulation and cataloguing operations are natural for the first stage of library automation: the libraries in this study demonstrate that this is in fact what occurred.

4.6 IT Applications in Use

After the first wave of automation what further IT applications are libraries using? There is no consistency of approach in either country: the needs of a particular library system dictate the path chosen. Early in each interview, interviewees were asked for a listing of the IT applications in use in the library. Further questioning was designed to elicit information about specific IT applications in order to obtain the clearest picture of what is happening.

Consistency of response across a single library system was often missing: a library assistant saw only the elements present within a specific department; middle and senior managers tended to

see the wider spectrum of applications. Interestingly it was often the bibliographic services staff, or those most closely associated with the traditional technical services department who had the widest vision of what automation and information technology could offer within the system. The need for bibliographic information is consistent over the entire library system so they see and learn what is happening on a wider scale. They, too, were the staff who on the whole were most enthusiastic about information technology and keen to expand their own horizons and knowledge. Although not a primary focus of the study, one interviewee who had given this topic some thought observed:

Generally people who are attracted to the technical services side of things definitely have different skills: they are more perfectionist oriented, they see the detail ... they have those personality traits. Whereas the person going in to the public services is interested in patrons, in outreach. (COO, Supervisor of Automated Systems).

Whether this division of character traits has consequences for the training programme, or is indeed a significant factor, remains to be seen and may well prove a suitable subject for further research.

Descriptions of a wide range of IT applications in current use were given by the interviewees. In England the most frequently cited were:

- Online databases
- Prestel services
- Viewdata system
- CD ROM for staff use
- Access to the local authority's main frame

Blending two technologies, that is downloading information from a bibliographic database for local use or to develop a local record was often referred to:

From January 1991 we plan to have in place LASER link for ILL which will have a messaging function as well. This brings into play the concept of linked technologies - download from CD ROM, download from other systems, off load from our own files and put it into GEAC. (LE, Bibliographic Services Librarian)

In Canada there were some overlaps from the English list but the single item heading the list was word processing equipment. While all of the English sample libraries had at least some office automation equipment, including word processors, this was not specifically mentioned when they were asked about IT applications. Interestingly, a number of interviewees mentioned specific

software packages such as Lotus 1-2-3 or WordPerfect as being available. While not questioned on this, one could speculate that perhaps respondents in these libraries consider this to be simply an administration function rather than a library function. After word processing equipment the following were next on the Canadian lists:

- Online databases
- UTLAS service
- Desk top publishing
- ILL networks
- CD ROM for staff use

The use of a viewdata or prestel type system has not achieved any great usage in Canada. One source defines videotext as:

A broadcast digital signal or signal across a telephone line or other network which can, when converted, display text material on a television display screen. (*Information Technology* 1990).

All of the Canadian libraries surveyed had participated in Telidon trials but at the end of the trial period did not continue the service. In England, the combination of computer generated text on a television screen, be it a videotext or viewdata system, has been used for community information in branch libraries. Locations for placement of the monitors outside library buildings have included tourist information centres, for example.

One library in England has used a viewdata system quite extensively describing the operation in these terms:

About 1985 we put in our own private viewdata system which runs on an 8 port multi-tasking computer. And we began the process of putting terminals into branch libraries. We now have a videotext terminal in all the branch libraries except one. They are finding it very useful. In fact, the central reference library, where the videotext machine is, in the last quarter - the figures are just in - the videotext machine handled more calls than the staff did. It's had that sort of impact: the branch libraries don't need to ask the staff to get the information, they dial straight through. Tremendous success but we are still using phone lines. It's a general purpose service that anyone can dial in to not only our own libraries. (BE, Group of Senior Managers)

This provision of service is also being offered in Australia where Allen (1984) describes some possibilities for Australian librarians who in using videotext technology may be able to surmount the great distances of that country. He sees reference services benefiting from the new

technologies, employing information networks through which an end user could search the library catalogue, via dial in access, and then goes on to say:

It is conceivable that a videotext equivalent reference service designed and managed by the public library could be provided on a national or local scale. As public and academic libraries provide a publicly funded alternative to the commercially motivated bookshop, so a public videotext service might coexist but compete with the commercial media developments that are already developing in some countries. (Allen 1984).

Developments in technology make viewdata systems now appear quite slow and cumbersome. The World Wide Web and the information that can be input unto that site to offer to potential users of a library system a consistent view of the organisation has allowed library staff to generate tutorials on using the library to best advantage, to a Frequently Asked Questions file and general information and news services available. Email is also an accepted way to receive and respond to queries.

A second system related to viewdata, teletex which is "an improved version of telex, allowing some document formatting and faster transmission" (Information 1990) has not been exploited in Canadian libraries. Batt found in his 1990 survey an increase in the use of private viewdata systems (up 30% from 1985) and teletex and comments:

The technologies of videotex and teletex seem to continue with very little fanfare (Batt 1990).

He further states that:

There is a growth in the creation of extended networks of terminals delivering information of direct relevance to a community or communities. (Batt 1990).

Interviewees were free to list any number of applications they wished. Some items mentioned may appear peripheral to the direct service offered by the library: LAN (local area network) in the central library for example or an electronic security system. However it is the interlinking of the various technologies that support the library usages of the technology.

The training aspects of this wide range of IT applications are significant. All relevant staff will need to know how to switch the equipment on and off as well as being familiar with and aware of being aware of security procedures (theft of CD's for example). This can expand the level of responsibilities of an individual staff member or supervisor quite considerably.

In addition to the free listing referred to above, each interviewee was taken through a controlled listing of ten IT applications (see Table 2). From this there is a fairly clear picture emerging of applications in use in the sample libraries.

Table 2

IT Applications in Use in English and Canadian Public Libraries Studied 1990-91

	England (6)	Canada (7)
Networked Office Automation	2	2
E-Mail (Internal)	4	5
Online Databases	6	7
CD ROM	5	5
Cataloguing	4	7
Acquisitions	3	7
OPAC	3	6
Micros for Public Use	1	2
Videotext	3	None
Desktop Publishing	2	6

Other technological applications, not necessarily computer applications, mentioned by the interviewees were: Kurtzweil machines, fax facilities, viewdata facilities, locally developed databases, UTLAS, and a serials link. As this study focused on a small sample of representative libraries in the two countries, different IT applications may be evident in a more extensive survey.

Although there was some overlap in the free listings and the prepared listing, there were items mentioned in one list and not the other by the interviewees. While this may be due simply to being in an interview situation and not fully relaxed, some of it is certainly linked to a lack of awareness of what individuals or departments other than the one in which the interviewee worked were actually doing. This then becomes a matter of looking at the lines of communication within the organisation and ensuring that all necessary information is passed along the network. Senior management should examine this area very carefully as the training implications are significant. These could be not only in general knowledge of what is available within the system but also in knowing how and when to use these facilities.

4.7 Future Directions for IT Use

The future IT applications that staff in the sample libraries wanted to see, either in a practical sense or in the wouldn't-it-be-nice-to-have sense, were also listed by the interviewees. Here the range of applications cited ran the gamut from continuing on the automation route already chosen, to more CD ROM applications, to expanded facilities for the public, and to image processing.

4.7.1 England

Staff in the English libraries foresee developments which include putting the automated system in all of their branches regardless of size of the branch, to optical scanning and document control, and the automation of the archives section. Comments from the interviewees were also often phrased in the it-would-be-nice terms but the hard edge of financial constraints restricted what they could do or saw their library administration being able to do. This wish list was also often what are now increasingly being regarded as standard library items: a cataloguing system, an OPAC, CD ROM, reference tools, and so forth. Herring (1986) in discussing the future developments in Aberdeen concentrates on these areas as their first priority: the expansion of the automated circulation system, on-line subject access to the catalogue, serials handling. Other areas ripe for development are indexing of council minutes, development of a viewdata system and networking.

Comments like these were not uncommon:

My main concern about technology is that it is so market led and developing so quickly that the purpose seems to be to get you to spend large sums of money to get the next one. (GE, Deputy County Librarian).

I see a steady growth with technology [while] keeping an eye on new developments for the system. (SE, Director of Arts & Libraries).

Basically improving what we have. Looking beyond libraries there is much to do, archives and records management for example. (SE, Deputy Director).

The steady growth of technology and the improvement of current services using the available technology are certainly clear pathways that came out of the interviews.

Here again there are clear training implications: making staff aware of the changes in technology, keeping staff up-to-date with the technology in current use and in formulating long range plans for technological developments in the library.

4.7.2 Canada

Future applications listed by the interviewees in Canada included the ability to link directly from a periodical index to the journal holdings for that library, using electronic bulletin boards for listing of daily events, more in house indexing including that for picture storage and the wider spread use of networks. One librarian also described a hypermedia pilot project for local history and archives. Again there was a concern expressed about cost of the technologies and about being able to maintain them once you have them. Another important development of public library services is using a fax machine for service delivery. It is easy to fax an entry from an encyclopaedia, for example, in order to answer a reference query at a remote branch or to send a copy of a periodical article direct to the user or a remote branch.

These types of developments are in fact available:

Through the use of electronic mail, patrons will routinely deposit queries for information, and await response from the library's service points. The actual points of service patrons can access will potentially become infinite since they can direct queries to the best possible source of information such as specialized collections or even to service points that have been established to respond to electronic queries. (Cargill 1990).

Cargill goes on to talk of document delivery options such as "high speed facsimile delivery as telefacsimile equipment becomes as prevalent as the telephone" (Cargill 1990). Academic libraries by the mid 1990's routinely use email to respond to reference inquiries, forward requests for the loan of materials and reminders for overdue materials. Other developments which will also be reflected in public libraries will be an increasing reliance on full text documents or journals in electronic format.

Cleveland (Ohio) Public Library has prepared a plan for what they term the next wave of automation. Public service goals for 1991, for example, include: "convert periodical holdings to electronic format, and provide remote public access to network services" (Mason 1991). While

their emphasis is on document delivery and information services this does show that these services can be implemented in libraries who take this particular initiative and challenge.

Comments from senior librarians such as these were typical:

... A regional information network [where] libraries are the key players but not the only ones. [It would include] social services, community information groups, etcetera. The technology exists to do this, it is the politics that is keeping it back. (COO, Manager Support Services).

CD ROM towers would be used as part of this network to link encyclopaedias [and] other library materials so as to provide access to that cluster from any terminal. It then simply becomes another menu option. (COO, Manager Support Services).

[We are] looking at pilot project at X Public Library which is a hypermedia project on laser disc (sound, video, photographs, text) for their archives collection which has a colour printer linked up with it. After trial period ends [we] want to participate. (COP, Chief Executive Officer).

Depends on the money and the political climate for the directions they will choose to go in. (COP, Deputy Chief Executive Officer).

Librarians in Canada are concerned with building on what they already have, as are their English counterparts, and taking the technology in appropriate directions for their service. The training implications are therefore similar in the two countries: ensuring that staff are comfortable with the technology in use, are aware of the ways in which the technology is changing, and how this can be used to benefit the library service. A number of writers have tried to forecast what libraries will be like in the future (Bearman 1987 for example). The emphasis on the use of more technology in libraries is evident in these and other articles. Other authors while acknowledging the role that technology is going to play concentrate more on service potentials through the use of telecommunications and other networks (McKee 1986 for example).

4.8 Advantages of IT in the Library

Every interviewee was asked to comment on the advantages and the disadvantages of IT (information technology) in the library. Overall, the tone of the responses was very positive and some interviewees were hard pressed to detail any aspect other than the downtime they would consider to be a disadvantage. Bergen (1988) reported very similar responses:

Staff were asked to comment on both the strengths and weaknesses of the system since computerization. Strengths were seen to include speed, accuracy, improvement of service to customers and reduction of clerical work. The biggest problem was thought to be the occurrence of breakdowns; besides this each library had experienced problems peculiar to its own system. (Bergen 1988).

The advantages will be discussed first followed by those areas that the interviewees have classed as disadvantages.

4.8.1 Speed, Accuracy and Efficiency

The speed, accuracy and efficiency of service were the first and primary advantages listed by the interviewees. Typical are these three brief comments:

The accuracy even though the terminals are subject to operator error. There is a lot less opportunity to create error. (COP, Circulation Supervisor).

It is fast, efficient: very useful tool but it is just a tool. (COB, Head of Adult Circulation).

It's the three E's: economy, efficiency, effectiveness. (SE, Deputy Director).

Accuracy and efficiency of operation were also expressed in terms of access to the collections - the linking of the various parts of the collection in a meaningful way for the inquirer. Better and quicker access to what is in the collections was an additional advantage frequently mentioned. The ability to link the disparate parts of the collection so that a borrower can see the full range of materials available on a topic was a definite advantage:

It is sort of the transformation of what we are as opposed to what the public has traditionally perceived us as - we are books, important as they are - but it is just that extra access to really in some cases a totally different realm or sphere of information that was previously not available. It complements everything else that we have. (COL, Coordinator Central Library Services).

Efficiency and accuracy along with speed of access are definitely reported advantages as seen by the interviewees.

4.8.2 Staffing Flexibility

One of the advantages mentioned was that fewer staff could do more: technological developments would take the repetitive work leaving the tasks that require intellectual or judgmental skills to the staff. This was often coupled with a statement that the original intent in

having an automated system was to save posts. In fact, this has not generally been the case. Staff levels stayed at virtually the same levels once the changeover period ended. A senior manager had this to say:

Obviously the most touted benefit of it [is] that you would reduce your staff numbers and there is no doubt that without automation we would have to have more staff. (SE, Director of Arts and Libraries).

Another senior manager links the increase in circulation activities with the need to maintain staffing levels, or in practice to slightly increase the levels:

It has not necessarily saved staff though obviously it has allowed us to cope with existing staff, or slightly increased staff, with huge increases in circulation in some of the libraries. (LE, Bibliographic Services Librarian).

Although staffing levels have not increased, there has been a redistribution of the work load. More routine aspects of the work are handled by the machine which in turn frees the existing staff for other responsibilities:

It is time saving in the clerical way - I would never say we could save money and staffing by having information technology. I think it just shifts, it shifts the responsibility so there is more you can do with it. The more menial work can be done with the technology. It is a much better public service. (COO, Deputy Director).

While information on the specifics of staffing levels before and after automation was not requested, the comments of the interviewees serve to indicate that staffing patterns are changing. One author who based her research on a numerical analysis in an academic technical services department found that staff levels have been reduced with a corresponding increase in productivity:

Between 1977 and 1986, the cataloguing staff was trimmed by 12.33 FTEs (or 25%). And this reduced staff is able to catalog more titles. Between 1976 and 1980, the 50 staff members involved in cataloguing handled a yearly average of 52,283 titles. Between 1983 and 1986, however, an average of 57,378 titles per year were processed by a staff of 37.66 FTEs. Not only has automation allowed a reduction in staff, but the reduced staff is able to process more titles. (Bednar 1988).

Later research by Daniels (1995) also bears this out: overall there have not been any reductions in staffing levels although redeployment and attrition contribute to lower staff levels within a particular department. Fewer staff doing more is coupled with the advantages of efficiency,

speed and accuracy to form a strong equation for senior managers trying to balance service objectives with limited budgets.

4.8.3 Improved Public Image

One advantage cited by the interviewees was a better public image. Allied to this was pride in being thought of as at "being on the leading edge" of technological developments. The two concepts are intrinsically linked: the public sees up to date equipment and the staff have the feeling that they are very much in the forefront of the technological revolution. One Canadian librarian expressed it as follows:

The idea that you are extremely computer age, you are up to date, you are on the cutting edge, you are modern. And it is really a boost to the library's image. (COP, Deputy Chief Executive Officer).

One Canadian library (CNSD) had moved into a new central building at the same they introduced their first automated system: the public reaction equated the new building with automation.

4.8.4 Improving Staff Morale

The boost to staff morale is something that is more intangible:

Service levels have improved dramatically. Staff are happier because they are not plagued with an outdated [system] are not trying to help a patron with outdated tools. (COSC, Project Coordinator, Technical Services and Acquisitions).

Staff can now feel more confident about the information that they give to inquirers. They know what stock is actually in the library, are able to broaden the scope of a search by the use of key words, are able to determine what parts of the collection are in need of weeding and replacement, know which stock is popular in one branch and so on. These comments from two senior managers are typical:

We can actually manage the collections, our in excess of \$15 million inventory. (COSC, Project Coordinator, Technical Services & Acquisitions).

It gives you a much better idea in terms of circulation, which is what I'm most familiar with, it gives you a much better picture of the status of the collection. The information you get for collection development for example, the use of your collection: you know what is going out and what is being used and how many times and when it last went out

and all that kind of stuff, which is very good for collection development. (COL, Lending Services Librarian).

This, too, is linked with the first advantage given: accuracy of the information in the system. Staff and public alike benefit from knowing the system is accurate: the library's public image is enhanced and that in turn has a positive effect on staff morale. Higher job satisfaction in an automated library is echoed in the research completed by Daniels (1995).

4.8.5 Standardisation of Working Practices

Standardisation of working practices was also seen as an advantage. Staff know that practises in any one branch library is the same as in any other. They also know that all entries in the database are in the same format across the system: the information on the screen is the same for all staff viewing it.

The elimination of files. The elimination of a lot of things that were very prone to error. Which means that you can be so much more accurate. (COP, Deputy chief Executive Officer).

However this standardisation also means an end to specialisation among the staff: there will no longer be a resident expert on overdues or reserves, for example. The computer demands that certain operations be done at a certain time and for this to happen then all staff must be familiar with all the operations. This effectively expands the jobs that staff in a particular department or area can manage and is extremely advantageous to the organisation:

Speed and economy in doing away, you know, the system doing the routines which before would have kept a number of staff occupied for most of the day. (LE, Assistant Librarian Computer Services Department).

Although expressed somewhat as a negative, this interviewee sums up the position rather well:

Being forced to do everything to suit the timetable of the computer. It certainly changed the routines, the way we do things. [It has] put a lot more pressure on us at the beginning of the day. We were used to spreading out the chores that we had to do throughout the day. And now there are half a dozen things that have to be done right before we open. (COP, Circulation Supervisor).

Because of the standardisation of the routines, it is comparatively easy to introduce as part of the training package the broader picture to give all staff sufficient background material to link various parts of the operation together in a cohesive whole. The more information the library clerk or

paraprofessional has about how the library is run, the better in the long run for both the public and the administration.

This is also an area where CBT (computer based training) can be developed and used very effectively to ensure that standards are, in fact, the same across the library system.

4.8.6 Improved Training

Training itself can be improved by employing the technology as one element of the training programme. The technology in place demands that the staff using it are thoroughly and well trained. Basic library skills as well as those skills to operate the equipment, simple troubleshooting techniques and security of information and the equipment need to be known by all staff. This senior librarian comments:

Sometimes it requires changes in roles and responsibilities. Certainly it will require change in the training of your staff. It requires constant updating of staff expertise so that you remain current with the technology. And I think among the staff it requires a more flexible attitude, a willingness to constantly update and grow. (COM, Director Central Library).

Another librarian sees the public attitudes towards the technology also forcing changes in staff training: greater demands require finer skills in interrogating the borrower and in determining a search strategy to locate the best material:

Their [the public's] expectations are far greater. They come in with far greater expectations than ever before. And of course that puts a greater demand on staff and their skills to be able to handle it. (COSC, Head of Reference).

The advantages of the technology highlight the necessity for improved and increased levels of training. This includes training in basic skills, in applications of the technology and in using the technology effectively to manage the library's resources and stock.

While far from complete, even this listing of some of the advantages does give some indication of the comments made about the benefits of technology in the library. While some of the comments are tinged with what could also be described as disadvantages it is the positive aspects of the technology that stand out in the minds of these interviewees.

The advantages advanced by the interviewees however do not correspond to the reasons given for choosing to automate. For example, if automation was to eliminate positions then the reports that staffing levels have not in fact changed or have increased slightly can not be viewed as an advantage. It is only after automation has taken place that the reasons can be placed into the context of the advantages and the two can be meshed together.

4.9 Disadvantages of Information Technology

Although the interviewees offered few specific disadvantages of the technology, they did offer a number of areas where they perceived problems with the technology. Often the disadvantage was only a different aspect of an advantage, or simply an area where the interviewees wished they had had more information prior to their investment in the technology.

4.9.1 Dependence on Equipment

Downtime and the total dependence on the machinery in order to function as a library were the two most common disadvantages listed by the interviewees.

If the thing goes down, that's it! End of story, you have lost everything. Whereas the likelihood of all your paper resources going astray at any one minute is fairly remote. (SE, Information Service Manager).

It is this dependence on the machinery, the machine that controls how operations are carried out that is a concern for some managers. One senior manager was more forthcoming about the dependency on the equipment and the related downtime:

We are relying on it for more and more. The system goes down around here, a lot of staff are wandering around who don't have anything to do. And they don't because everything is tied into it. I do think we are being more efficient: certainly in terms of circulation we have been able to handle an incredible increase since 1985 - something like a 35% increase in circulation - with a minimal increase in staff. And most of the increase in staffing has been on information desks. It hasn't been on the circulation desks by any means. We have been able to cope with something like a 700% increase in holds. ... And we have been able to do that on the system without adding staff or without significant numbers of staff. (COB, Chief Librarian).

This Chief Librarian's concern ties one of the publicised advantages, saving of staff, with the disadvantage of dependency on the equipment: without the technology, staff can do nothing.

4.9.2 Operational Changes

An additional related issue touched on by some interviewees was changing your operations to fit the timetable of the computer:

You have to change your routines to fit the system rather than changing the system to do what you would like it to do. (COL, Senior Cataloguer).

While downtime and dependence on the machinery were two of the listed disadvantages, one librarian, whose library was in the process of automating, emphasised the problem of having tasks ready for staff to carry out when there is any downtime:

One of the disadvantages that we found immediately is that your entire staff become machine oriented. As soon as you have a power cut or the system is down for some reason, everybody grinds to a sickening full stop and you have to rethink what on earth they can do. (RE, Bibliographic Services Librarian).

Finding things for staff to do is not generally a problem: libraries have always planned for slow work periods and have many projects on hand. It is now becoming more difficult to do this in a technical services department than in a public services area where manual projects are more plentiful.

4.9.3 Costs

Cost is certainly a factor in any decision to automate. For many senior managers who are trying to grapple with ever decreasing budgets it is a particularly bleak situation:

The dependency on technology which means that you have to go and buy the latest sooner or later and that costs big bucks. So that dependency on an expensive technology habit. (COM, Chief Librarian).

[With] anything like this, high tech, [it] is the fast redundancy of individual pieces of equipment that we need to replace. An issue was an issue was an issue for decades and this isn't going to be the case: you are going to need new hardware and software and maintenance costs are going to be higher than they ever were on readers' tickets and book cards. (RE, Director).

The equipment and the related upgrades to software and equipment are expensive. One cost that funding bodies do not take into consideration is the ongoing cost that will be necessary: in a non automated system the ongoing costs remain fairly stable from year to year. In an automated

system, however, costs can escalate quite quickly. Interviewees in both countries commented on this aspect:

Cost is a consideration. It is not cheap to run a computer system. [There are] continuing capital costs as well. Our tools are also expensive. (COM, Director Automated Services Division).

It is quite costly: the cost of the equipment, the setting up of the system. (HE, Borough Librarian).

Questions about the cost of training were not specifically included in the interview schedule. Some interviewees, however did touch upon this topic at least superficially: hiring outside trainers or sending staff to outside training courses can be very expensive and the benefit is not always immediately evident. In-house training can also be quite costly although many costs are often absorbed in the general library overheads. Williamson (1993) does touch on the costing a training event in his examination of training needs analysis but he is one of the few to do so.

A survey in the United States found that six out of ten libraries spend less than one percent of their personnel budgets on training (ULC Study 1993). The same article quotes Anne Cogen, training director of the Free Library of Philadelphia, as saying:

Library administrators shouldn't sit on their hands just because they don't have enough money for staff training. "They have to think of creative ways to provide training for their staffs," said Cogen, who suggested private sector funding, resource sharing with the city, and other training tradeoffs. Libraries can maximize costs by using the skills and talents of the existing staff ... to help train other staffers. (ULC Study 1993).

Few creative methods of training, as suggested by Cogen, were mentioned by the interviewees. More emphasis needs to be placed upon these ways of using existing staff more effectively and in sharing training with other libraries (for example, the SINTO group in Sheffield).

4.9.4 Routine Nature of Work

The very routine nature of computer work is one area that needs a fuller discussion. It is the staff employed at the clerical level who tend, largely, to be responsible for the most routine jobs in the library. One reason cited both by the interviewees and in the literature to automate was to eliminate routine tasks. Computerised processes, however, carry with them their own routine tasks:

...The routineness of doing computer work. Everything is very routine and how are we going to handle the staff's responsibilities to alleviate the boredom and the routineness of the computer. (COP, Circulation Supervisor).

In this case the interviewee was a library assistant in a fairly small Canadian library system. Since the installation of their integrated system she had been concerned about the work routines: this library employed many part time staff and the turnover was of considerable concern to all managers in the system. Johnson (1991), too, sees this routineness in her research:

Many tasks formerly handled through the manipulation of paper files are now automatically performed by computers. To respond to both the routinization that computers can bring to some jobs and the elimination of some of the more tedious manual tasks, libraries are expanding position responsibilities and revising personnel expectations. (Johnson 1991).

The routineness, the downtime and the reliance on the equipment are three significant disadvantages cited by the interviewees.

One method adopted by several of the libraries (COP, COSC for example) to alleviate the routine nature and the reliance on the equipment was to cross train staff between departments. This was done to provide and increase variety within jobs as well as to develop a pool of staff with experience and knowledge of the various operations in more than one department.

4.9.5 Meeting Increased Expectations

Other disadvantages include the pressure on the staff by both their colleagues and members of the public to live up to the expectations, warranted or not, they have for the automation. This interviewee points out one pressure on staff:

Expectations, staff expectations are pretty high and I think there is perhaps some disappointment that it doesn't do everything. (CNSD, Library Assistant).

In addition staff face the pressure of their own expectations of the system chosen but also the speed at which they can acquire the knowledge to become an expert:

The other comment I guess in terms of downside [is that] it does put an incredible pressure on you, your middle managers in particular, who are expected to hold the hands of their people as well as be totally knowledgeable in a relatively short period of time. (COSC, Project Coordinator, Technical Services & Acquisitions).

Pressure on the staff can be one area on which training can focus. Open discussions at staff meetings or in formal training sessions can bring out the frustrations and pressures felt by staff. Staff can then develop a strategy to combat the pressure.

4.9.6 Increased Training Requirements

There are implications for the training of middle managers in the quotation used in the previous section: they feel pressure from staff at both the top and the bottom particularly during the implementation phase of an automated system. Rapid change and the diversity of computer and related information technology is another disadvantage. Something new comes out every day and staff must be kept abreast of the developments:

The disadvantages I think are in keeping up with it. Keeping up with the technology. Absolutely key: keeping people abreast of the changes, keeping people trained so that they don't feel redundant. Keeping people keen, keeping them knowledgeable about what is happening. (COO, Supervisor of Automated Systems).

The staff in turn not only need to keep up to date about changes in technology but also to learn how to operate and use the new technology. Staff motivation is a key element here but the training aspect for all library staff is equally vital. Both Daniels (1995) and Whetherly (1994) comment in their research on this need for staff to be keep up to date.

Motivation of employees is dependent upon a number of factors: when linked to training it can be a powerful combination. Motivation suffers when there are as Harrison (1992) states:

Mistaken expectations about the job or its level and content, or with unsatisfactory training, support and rewards. (Harrison 1992)

Little learning will occur if the employee does not want to learn: managers need to create a climate where motivation and training are seen to be positive qualities.

The other [disadvantage] is training: just keeping abreast. (COM, Chief Librarian).

Changes in service patterns will also mean other changes in the training requirements for the job. New service areas can be developed which in turn will create their own training requirements. This senior manager sees expanded service as one area where developments will take place:

You have got a better service, more relevant service, more up to date service, hopefully a cheaper service. [It will] enable staff to concentrate perhaps on those areas that we haven't been able to give time to in the past like the problems of adult literacy that are part of our brief of outreach, of attracting people into the library to read books rather than to access information: really to make the whole library service a community asset. (HE, Principal Assistant Borough Librarian).

The library as a total community asset will take careful planning and training in order to succeed. Ballard (1988) states that there has been a definite change in the orientation of public libraries from service to information:

We have offered reference assistance for nearly one hundred years, but few would have claimed until recently, that information was our principal mission. (Ballard 1988).

With the assistance of the technology to take the routine jobs, librarians can continue to offer both service and information. The improvement of both services offered and the way in which information can be presented is a challenge that will dominate training in libraries for some time to come.

4.10 Training Implications?

The data gathered and presented thus far demonstrate that the training implications are numerous. These implications can be roughly divided into four broad categories: technological, managerial, using IT to train for IT, and in using CBT.

4.10.1 Technological Training

Under this heading would come training that deals with mechanics of the technology itself: how to actually operate the equipment. With the increasing sophistication of the systems in use this is an ongoing responsibility for all staff who operate any of the systems.

How to operate the equipment is very important. It is equally important that all staff are aware of advances both in equipment and in software developments that will have relevance to their jobs. The development of new systems and new applications necessitate a staff alert to the possibilities that the advances will bring to their service. As the interviewees listed what future IT

applications that their library is pursuing, the need simply to keep abreast with what is happening in the field becomes more critical. One interviewee expressed it this way:

A card catalogue is a card catalogue is a card catalogue but a system from one week to another is very different and the continual reinvestment [is] in the operator. (COM, Chief Librarian).

A second technological training need for some libraries is in the area of programming and the development of databases. Locally developed databases, for archival material, slide collections, toys and materials unique to a particular service, may be necessary. Staff with the skills to develop and exploit these materials will need to be identified and given training in the appropriate packages.

A third technological training need is that of the end user: what training should staff in libraries be providing for the public. Using a familiar card catalogue drawer is one thing, using an OPAC quite another thing. As endusers conduct their own searches on remote databases, the role of the librarian as teacher, or facilitator, becomes more important. At a Texas university, several methods of facilitating this process have been tried: staff members found that students were not achieving the best possible searches. Jaros (1990) describes one bibliographic instruction programme that employs slide lectures, manuals and having a roving staff member available to assist. He concludes that:

The advent of new technologies has changed the teaching role of librarians, and it is vital that we develop the means to train our patrons to fully utilize these new services. We must be adaptable to the situation and realize that we are still teaching, still guiding our users to their information needs. (Jaros 1990).

Bibliographic instruction, which is beyond the remit of this particular study, is increasingly important to librarians as they are the intermediaries between the equipment and the enduser. However, interviewing the enduser to determine the exact information required will be an area where more training for all staff working in a public service area.

4.10.2 Managerial Training

And of course training is much more important. It is really much more important that everyone do the same thing and that they communicate what they have done. (COP, Deputy Chief Executive Officer).

Communications skills, and the communication networks within an organisation, are very much a managerial concern. One middle manager commented on the fact that everyone in the organisation was now writing their own memos and correspondence: there was no need to go through a secretary or typing pool. She saw this as a trend that did have some dangers for the communication links in the organisation:

We don't necessarily have to interact with the secretary so there might be the tendency to sit and play with your word processor all day and not really get out, walk around, and talk to people, get a feel for the pulse of the place. (COO, Manager Circulation and Adult Programming).

How a library disseminates information both within and outside the organisation can be a reflection of amount of openness in management style. There is also an element evident about the receptiveness of staff to using new technology, to reassignments and to new developments and policies. The level of trust that develops between management and the staff also plays a role in how the communication networks operate. One of the advantages of an automated system is that all staff have access to the same information: the database is the same throughout the library system. A respondent expressed it this way:

The main advantage in terms of information technology is that you can update centrally and quickly. And you can provide access in many more service points. The advantage of an online system such as GEAC is that it unifies the service points: they are all working the same system. You can offer the same standard of service in many ways in your smallest as well as your largest library. (SE, Deputy Director).

A second training need is in simply coping with the overwhelming abundance of managerial information that an automated system can generate. A Canadian librarian quoted earlier in this chapter (COL) spoke of knowing the status of the collection particularly in relation to collection development. Senior staff will need to know how to interpret the data and how to use the data to improve or change library services. A disadvantage of any of the systems is that statistical information can be created on almost any aspect of the library's service - knowing what is meaningful for a particular library then becomes key. Wright (1995) also gives improved management collection as a reason for automating. He does caution that some decisions on collection management can be political but the ability to provide information on patterns of use is a valuable planning tool.

A third managerial training implication is in security. What security systems are in place to protect the collections and what training is needed to ensure that all staff are familiar with the

procedures. There are also questions of the security of the equipment: hard discs can fail and software can acquire viruses.

Additional staff positions are a fourth managerial training concern. Although reasons given for automating the circulation system are often couched in terms that would eliminate positions, libraries have in fact found that new positions are created as well. The new positions created (see, for example, Buck 1986) are often in an Automation or Systems Department. Johnson (1991) found a number of changes in staffing in her study of academic libraries that as yet are not being reflected on formal organisational charts. The greatest structural changes appear to be taking place at the lowest levels:

Clerical positions are being enhanced and expanded. Libraries are retraining employees at this level; few employees are being terminated when their positions are no longer relevant. (Johnson 1991).

Resource personnel, trouble-shooters and other skilled staff will be necessary: this will mean additional training for this staff. Some libraries have also reorganised their structure either just before automation or shortly after: this has meant that staff have been reassigned to other departments and therefore need training for new responsibilities. In some libraries traditional departments, such as lending services have been realigned and now fall into new departments that provide support services rather than the traditional public service. Other libraries, while not creating a new department have done some cross training between departments:

We have tried very hard to avoid the divisions between public and technical services. And we did that by having technical services people work on the circulation desk and to a lesser extent we have done some training with circulation clerks on technical services functions. (COP, Deputy Chief Executive Officer).

A further training implication which while not specifically addressed in this material is on the interpersonal skills necessary in the library. Staff to staff communication as well as staff to public communication are both key areas for training. The use of word processors for example makes written communication very easy within the organisation. A report can be circulated to all staff electronically: any suggested modifications or additions can be directly added to the text.

4.10.3 Training in IT for IT

Training is considerably more than choosing an approach and ensuring that all staff are consistent in carrying out the routines of, for example, the circulation desk.

There is a lot more involved in the training, a lot more emphasis has to be placed on training in order to make the system effective. And the greater the level of introduction of technology the greater the level of training both introductory and continuous that is required. (LE, Deputy County Librarian).

The technology in use requires quite specific training: accuracy, one of the listed advantages, is demanded by the systems. This, then, becomes a skill that is required by staff using the technology. Initial training must focus on how to use the system whilst continuing training can focus on the refinements that increase accuracy and efficiency in using the system.

The public should not be forgotten in this equation. Without users and borrowers, public libraries would cease to exist as we currently know them. Their expectations often shape the route taken in automation and therefore in the training undertaken. A final comment emphasises this aspect:

We are perceived as taking a leadership role in the community. Aside from the personal banking machines it is probably the one other place you go that you play with technology as a member of the public. (COB, Chief Librarian).

It is our leadership role in the community, our ability to use technology effectively which will continue to impress the public. Training must be a partner in this process.

4.10.4 CBT: Computer Based Training

The interviewees in this study did not suggest CBT as one of their training methods nor did they suggest that CBT might be beneficial in their library system. They did not speak of the training implications that might arise from any of the IT applications chosen.

CBT or Computer Based Training, sometimes referred to as computer aided training or learning has not yet been exploited to any great extent by libraries. Its advantages are:

1. trainees learn at their own pace,
2. trainees incur no travel expense, as it can be taken at the trainee's work place,
3. many trainees can use the same package once it is acquired,
4. trainees learn on the equipment they will be using daily,
5. trainees receive consistent content delivery. (Mushrush 1990)

The same information always being presented in the same manner is a prime advantage in training and reinforcing the training of routine, repetitive jobs such as those associated with the circulation desk. Mushrush does go on to describe the CBT system chosen by OCLC as its primary tool for training (Mushrush 1990).

CBT (Computer Based Training) provides:

Consistent, procedural instruction, totally independent of anything except correct use of the system. For a system where this is the training goal, CBT is the format best suited for the job. (Mushrush 1990).

Computers do provide a valid teaching and learning mechanism:

Computers present both the training challenge and its solution. Computers create the need for training, they also supply an excellent medium for that training. ... Training materials for computers range from audio tapes with practice disks for word processing programs, how-to videos that show step-by-step instructions, ... tutorials that run on a computer, ... interactive computer tutorials and interactive video. (Maddox 1989).

Vendors of automated systems have also tended to ignore the potential of CBT or CAI:

Other training tools currently ignored by most vendors of integrated library systems include videotape, instructional television and computer assisted instruction (CAI). Individual libraries find it difficult to develop these training devices on their own because of the high cost and lack of expertise. Vendors, however, could more easily develop the necessary capabilities and recoup their production costs through sales to users of their system. (Litchfield 1990).

Training is an element often built into the specifications given by the vendors, although not necessarily carried out as thoroughly as library management staff would wish (Buck 1986).

Frequent updates to the training database or cases specific to your library system are not on the vendor's file. Shaw describes her experiences in Florida using CAI with paraprofessional level staff who in turn use CAI with student assistants doing precatalog searching (Shaw 1989). She also discusses other commercial CAI programmes and whether they meet the following criteria:

1. Utilizes computer's potential (its patience, variety, speed, and animation effects)
2. Provides interaction
3. Offers encouragement
4. Rewards success
5. Presents a challenge (Shaw 1989).

One Chief Librarian however spoke of training the end user. It was here in the area of, broadly speaking, bibliographic instruction that she saw one line of training being developed:

... Because we are quite committed to OPAC's and things like that which actually have a requirement in terms of user education that we haven't quite grasped. (SE, Director of Arts & Libraries).

Jaros (1990) describes one such programme in place in an academic library and which of three methods tried proved to be most effective for them.

CBT has considerable potential in libraries that has yet to be fully exploited:

Instructor-led and CBT were conceived to be separate methods of information transfer... Used separately, they present two approaches. Used in combination ... and coupled with solid audience definition and evaluation, the options expand to fit the growing need for trained and knowledgeable people in every profession. (Mushrush 1990).

Research in the past decade has determined that CBT is an extremely effective teaching method (Rogers, 1989). Further guide-lines particularly in relation to the implementation of a CBT training programme are suggested by Bayne et al. (1994). Open learning packages have subsequently been developed by a regional training group (Northern Training Group & SCET 1994) specifically for public library staff. However, full training and instruction can not be totally handled by computer: human input is required as well!

4.11 Conclusion

The cost of training, or more precisely not training, is not often mentioned by the interviewees. Cost factors considered and discussed all appear to be those of the equipment be it hardware or software. It has been said that:

At present the amount spent on training and retraining in the United States, and perhaps in other industrialized nations, is quite low. A study by the American Society for Training and Development stated that insufficient training decreases worker productivity and that rapidly changing technological situations intensify training needs. (Welsch 1990).

This is pertinent when it is recalled that training budgets are often very low in libraries (see for example the ULC Study 1993) and liable to be cut when budgets are reviewed. The cost to train staff is very high: libraries do not charge the true cost of training: many items are hidden in stationary, telephone, or staff costs. The costs of not training, however, far outweigh the costs of training and retraining existing staff.

Cost of course is one factor which will crucially affect training and it is one area where public libraries show marked differences. A 1984 survey showed training fund allocations varying between zero and 21,000 pounds with some 50% of public libraries spending under 1800 pounds. ... A low level of funding must inhibit any training programme. (Pringle 1988).

The full costs of training could be an area for further research: not only the stated budget categories for training but also all the costs that are included in departmental overheads.

The training implications of automation are indeed considerable: as noted in this chapter they exist throughout the process of automation. Computers can lead to further training needs as well as providing a means to accomplish the training itself.

Chapter 5

Impact of IT on the Individual and the Organisation

5.1 Introduction

This chapter will examine the impact of Information Technology on the individual and its consequent training implications. Discussion of the impact on the individual does, however, overlap with discussion of impacts on the organisation and this, too, will be elaborated. The three principal areas that will be highlighted are the deskilling of clerical staff, the blurring of job boundaries between paraprofessionals and qualified librarians, and the changing role of the middle manager.

A simple diagrammatic representation of this might be:

technology -> change -> training -> the individual

The diagram illustrates that the change brought about by the introduction of technology within the organisation results in the need for training. This, in turn, impacts on the individual staff member. The individual is not alone in being affected by the changes brought about by technological advances: the organisation, too, will be altered.

5.2 Deskillling of Staff

Deskilling is a relatively new term and is defined as:

1. To mechanize or computerize (a job or process) to such an extent that little human skill is required to do it.
2. To cause (skilled persons or a labour force) to work at a job that does not utilize their skills. (Collins English Dictionary, 3rd ed., 1991).

In libraries, deskilling is a major issue (see for example Bergen 1988; Harris 1992 and Johnson 1991). Has the automation of mainly clerical jobs led to lesser skills for an individual staff member? The operation of a computer is relatively simple although the information contained and provided by that computer is quite often very sophisticated. It is this separation of the physical and manual operation skills from the intellectual skills that needs to be emphasised when discussing the whole area of deskilling of staff.

Staff most affected by deskilling tend to be those whose jobs are principally clerical in nature: the circulation desk clerks, the data entry clerks in bibliographic service departments and some technical services staff. Nonetheless, this does not mean that staff at other levels in the organisation are not affected by deskilling. Many middle and senior managers now routinely prepare their own memos and correspondence without sending them to a typing pool or using secretarial services. One senior manager (COO) confided that it was her secretary who bullied her into using a word processor that has made routine correspondence and report writing a much easier task.

For the purposes of this study however the discussion will be principally be about clerical level staff. During the interviews the respondents were asked about deskilling and whether this was happening with particular reference to entry level positions. The responses gathered were therefore concerned with the clerical level positions.

The skills that are required at a clerical level are both manual and intellectual. The manual skills necessary are those to operate job related equipment whether it is a typewriter or a computer console. Other manual skills will be in simply handling the materials in the library - books, recordings, and periodicals as well as operating book trolleys and shelving. Intellectual skills that have been required are reading and interpretative skills. Staff also require sufficient numerate skills to match call numbers to the proper shelving area, to match books and book cards and other fairly routine clerical tasks. As team work plays a major role in library work, interpersonal skills and communication skills will also be required. These last two skills are valuable not only to the staff member working with other team members but also when assisting members of the public. The communication and interpersonal skills necessary in this area are included in the many courses that focus on active listening, assertiveness training, or telephone answering skills and so forth.

Opinions among the interviewees differed on whether deskilling was happening. One respondent in speaking of the clerical staff at the circulation desk said:

I would say deskilled certainly. I find that they have become more automatic in their responses and they are expected to be automatic and expected to be consistent. They are losing much of the interpersonal skills that they need to know. They are expected to function almost as automatons in many library environments which I personally find is unfortunate because I find many of our clientele enjoy that interpersonal contact. They don't want someone who just wands a book in and out. And yet it is almost viewed as a production line. (COM, Director Central Library).

Automaton behaviour and a loss in interpersonal skills were also observed by Bray:

Although being able to operate a computer is often seen as a valuable skill, it is common for computers to downgrade a skilled clerical job - requiring a lot of skill and knowledge - to a production line function. Unless staff are motivated to develop other skills instead, such as dealing with customers, their motivation will suffer. (Bray 1991).

Is automaton behaviour actually occurring after automation? There can be an impression on entering a busy central library, for example, that this is the case: circulation desk staff spend long hours on the desk engaged in routine tasks such as checking library items in and out. With the automated system demanding only a simple repetitive action, there is less conversation with the public, less need to verify the information that appears on the screen and there is the feel of a production line. Interviews with the staff in these departments, however, proved that this impression was false. Over eighty per cent of the interviewees thought that clerical staff were being asked to have more skills, particularly intellectual skills, and that their jobs are becoming more interesting:

I think definitely having to function at a computer terminal does require an increased skill and some greater understanding of the system than would have been required of a manual system. I think it is a great advantage because I think it adds to the interest of the job, the information available to those clerical workers is much broader. What they are able to do is, I think, greater. (COB, Head of Adult Circulation).

More information is available on the computer terminal than has been available to clerical staff from other book check out methods: they need to know how to read and interpret these screens. Research by Daniels (1995) in higher education libraries demonstrates and supports this point: higher level skills are needed by the staff particularly the requirement to think and react faster.

In the English libraries, it is this researcher's impression that deskilling is occurring among circulation desk clerks. They are in highly stratified jobs that do not allow for much personal scope or development. Interest and variation within the job come from short assignments to the various components within the job itself: one hour on registrations, one hour on check-in, one

hour on check out and so forth. In the interviews senior and middle managers stressed the steps taken to relieve the tedium of the routine desk work. Examples of specific steps included scheduling shorter hours on the desk, assigning cross departmental duties and injecting variety into the daily routine. Cross assignments, however, while a valid method to expand the work horizons of staff are not without their own problems. Moeckel (1993) defines a dual assignment as a form of staff sharing in which employees on a regular basis devote significant portions of their time to duties in more than one department. The benefits of cross assignments provide an opportunity for the employee to learn new skills and to expand an understanding of the workplace beyond one department. Disadvantages, however, can come from conflicts in management style and differing expectations between the two departments.

5.2.1 Interpersonal Skills

Staff at the clerical level are the first level contact for the public using the library. They need skills to operate the equipment and interpersonal skills to work with the public. Often the emphasis in training is only on the physical skills, or technical skills. MacDougall (1990) argues that technical skills assume more importance at clerical and other lower levels in the organisation while conceptual skills are increasingly important the higher in the organisation the person is placed:

The acquisition of technical skills may assume more importance at lower levels of the organisation and relatively less at the more senior levels. On the other hand, the acquisition of human skills could be considered equally important throughout the organisation but requiring more concentrated efforts in certain areas at particular levels of responsibility. Conceptual skills, it could be argued, assume greater importance for higher placed personnel in the organisation. (MacDougall 1990).

Interpersonal skills training is increasingly critical for all staff. Technical skills are as important as intellectual skills. The ability to demonstrate and explain clearly how to operate a piece of equipment, such as an OPAC, as well as being able to operate that equipment effectively is an essential skill for the desk staff.

5.2.2 Why is Deskilling a Concern?

Is deskilling really a concern? Surely the advantages of automation - every transaction handled in exactly the same manner, no exceptions to any set policies - are to the benefit of the library and its staff. In the libraries where interviews were held, senior level staff emphasised that they were looking for very particular skills from new staff. The skills highlighted were attention to

detail and patience as well as being able to deal with the vastly increased range of information now available to all staff in the system. Most clerical level staff possess the basic educational requirement for entry level positions: graduation from secondary school and typing skills. Employers are looking for higher qualifications when selecting staff. Candidates who can offer not only the basic educational level but also possess word processing or computer skills are stronger job applicants. One chief librarian confirmed this by saying:

We certainly look much more carefully when we hire people at the background they bring and we are happy to see people who have worked with other automated systems. (COB, Chief Librarian).

All senior staff emphasised in the interviews that they were willing to train new staff to their standards of service but that they were not considering candidates who had only the basic minimum skills requested. This also indicates that employers have higher expectations of entrants. The interviews were held in the midst of a recession and this may also have contributed to a richer pool of applicants: highly qualified candidates would be available for each position advertised. It may equally be a reflection of the more highly educated work force available that employers both in Canada and in England are able to hire staff who exceed the minimum starting qualifications.

Although the basic requirements for a clerical position remained as described above, the interviewees did not indicate whether job descriptions and job specifications were also changing. This is an area where further research could be undertaken but it is beyond the remit of this study.

Employers, who require a higher educational level than the minimum indicated, are inferring that they are looking for more, and often differently skilled workers. It then follows that clerical workers are not being deskilled by the introduction of automated systems as otherwise a less educated workforce would be sufficient. In turn they are often better educated because they need more skills in today's library.

Staff employed at the clerical and senior library assistant level were highly skilled and took pride in their work exhibiting a professional attitude. They relished the training that was given and wanted to do more. The age of the employee and types of skill being learned were not negative factors at this level.

It was quite amazing. You know in libraries many staff are older and they adapted extremely well and you expected the younger ones to be quicker. Once they had it in front of them and found what they could do and learned how much they gained and how much more information was available, how much faster - they learned quickly. (COB, Head of Adult Circulation).

Deskilling is certainly a concern not only for employers but also their staff. The role of technology in changing the paths staff take in carrying out their duties and responsibilities highlight the areas where deskilling can be seen.

5.2.3 Staffing Levels Affected by Deskilling

It is not only clerical level staff who are affected by deskilling. Paraprofessionals and middle managers are also affected: they are responsible for the planning and organisation of training for the clerical staff. Other issues surrounding deskilling that are not covered in this study are related to funding issues: money may not be available to support a new programme, new initiatives may not receive adequate funding or policy decisions may recommend development in non traditional areas. These questions could be explored more exhaustively in a separate research study.

Paraprofessionals, as seen in this study, are taking on more responsibilities along with more first level supervisory tasks. Paraprofessionals are in charge of circulation operations or aspects of technical service operations (interviews were held with paraprofessionals holding these positions during the course of this study). For these individuals greater skills are called for including: equipment maintenance, knowing the programmes inside out in order to deal with any problems as well as the traditional library skills inherent in their particular departments.

Professionally qualified staff, that is staff who have a librarianship or an information science degree, are becoming managers not simply supervisors. They have less involvement directly with the equipment and less involvement with the public in explaining how to use the catalogue, how to do an online search, and so forth. Collier points out that the role of staff at this level is changing:

Skills required in this environment include at the practical level office automation skills such as keyboarding, database management, messaging and spreadsheets. At the broader professional level the education and continuing education of qualified information personnel should include development of understanding of the information society, innovation in publishing, information management, systems analysis and management, information infrastructures and human factors. (Collier 1990).

In support of Collier's point, a librarian, referring to middle managers, said:

Managers at a middle management level are expected to be totally knowledgeable, totally able to function in all levels of the automated system ... There's more expectation of managerial functions as opposed to a lot of the clerical activity that we all had to do because there was no alternative. And so it is a work smarter, and in a lot of ways, [work] harder, because for a lot of middle managers it has been done to them. (COSC, Project Co-ordinator Technical Services and Acquisitions).

Another interviewee who supported this viewpoint but from a somewhat different perspective said:

Generally it has been in identifying what is available in IT. Not at the lower end but at the middle manager level and senior manager level. Keeping abreast of what is going on. CD ROM is one particular example where there is so much going on now it is very difficult to know whether the programmes are dependable enough for us to bring them in ... exactly what they do and where they come from. (HE, Principal Assistant Borough Librarian).

The skills required of staff will not be the same at all levels. Clerical staff will require training in the basic day to day operation of the equipment as well as training in interpersonal skills. Paraprofessionals in addition to the basic operations will also need some theory and training in supervisory skills and interpersonal skills. Both levels will need to have background knowledge on the library and how it functions in the community. While these skills may have been considered quite far reaching at the time the interviews were held even more radical changes have taken place. The speed at which automation is introduced along with the increasing reliance on networks has meant a steep learning curve for staff at all levels in the library system.

5.3 New Skills that Staff have had to Learn

The phrase "High tech, high touch" has been used by many since being coined by Naisbitt (1982). Essentially he explains his idea as:

What happens is that whenever new technology is introduced into society, there must be a counterbalancing human response - that is *high touch* - or the technology is rejected. The more high tech, the more high touch. (Naisbitt 1982).

He links the self help and personal growth movements with the increasing technology in the workplace and the home. He also connects the search for inner values as a response to the coldness of the machine. Naisbitt offers the example of the technological world of a hospital

intensive care unit (high tech) with the rise of the hospice movement (high touch) and the development of the birth control pill (high tech) with changing and often radical lifestyles (high touch).

To put this into the public library context, the *high touch* aspects of customer service were referred to by the respondents. Interviewees in both countries stressed that increased interpersonal skills would be needed by all staff members. Two typical responses are:

The whole process of how to integrate that [the technology] into the customer service. Because that may have had an impact on your customer service in terms of how you deal with your user now that you aren't standing in front of a warm and cosy catalogue drawer. You have a machine between you which is quite a bit different from collaborating over a publicly acceptable catalogue. (COL, Co-ordinator Central Library Services).

I think the biggest one [new skill] to my mind is also the skill interpreting the technology to the public, to the user, becoming an intermediary. Instead of directing what maybe happens to actually becoming an interpreter of what is happening to the public. (COM, Chief Librarian).

Several of the interviewees noted that the machinery for an automated circulation system could cause a barrier between the staff member and the person making an enquiry. One librarian expressed it this way:

You have to teach people something different in terms of relating to the user on the other side of the counter because if you are not careful you lose the personal contact that you have with a manual system. And you have to take a different approach to be sure that you don't lose that. (GE, Deputy County Library Arts and Museums Officer).

In practice, however, long term usage of the equipment did bring about the same ease and rapport with the public as had been enjoyed while using a manual system. For the staff in the library systems in this study the longer an automated system had been installed the less frequently was the machine perceived as a barrier.

Naisbitt (1982) suggests that as a move is made from an industrial society to an information society that one result will be more quality circles, or similar structures, within the work place. While some work has been undertaken on the use of quality circles (The British Library under the leadership of Maurice Line for example) in libraries (see Schroeder 1986 or Martell 1987 for example) this was not observed in any of the libraries where interviews took place. Further research in a wider range of libraries may demonstrate results other than what this research has found.

Interpersonal skills are certainly highlighted along with an understanding of what a database is, basic cataloguing skills and breadth of knowledge by the interviewees as being "new" or wider in scope than before automation as these comments from interviewees show:

Interview skills haven't really changed all that much. What has changed is how you use the information that you get. So in a sense the strategies, you may have changed your strategy but the overall skills are the same. (COSC, Head of Reference).

From the narrow point of view that I can look at: MARC coding, cataloguing, that kind of thing. The whole issue of microcomputers and understanding DOS and how that relates. My staff have all had to learn all about intelligent communications, how to troubleshoot equipment, the list is just endless. (COO, Supervisor of Automated Systems).

MARC cataloguing was an area pin-pointed by all of the Canadian interviewees who had any responsibility for cataloguing or bibliographic services. This concern was not echoed by the English interviewees. In Canada there is a reliance on bibliographic networks for cataloguing copy and therefore a need for standardised practice among libraries contributing to or participating in the networks (for example UTLAS). In England there is not the same usage of shared bibliographic networks and therefore the need to adhere to one standard is not apparent.

We have moved from the very non standard circulation database to the more standardised cataloguing, full MARC record database with authority control and a lot of it has emphasised if anything the need for more standardised library skills if anything. Not even so much automation but what the ability the automation has meant in terms of going back and strengthening those cataloguing skills and that kind of thing. (COO, Manager Support Services).

Traditional library skills have not lost their importance in the automated library. Library materials are still catalogued and classified according to the system and methods chosen by that library although access to those same materials may have changed drastically. A system for lending materials is used although here again the methods of actually circulating the materials have changed.

There were some interviewees who felt that no new or radically altered skills were required of the staff. They stated that the job itself was essentially the same: a circulation system is a circulation system is a circulation system for example. Only the mode of operation of the system had changed. These respondents express it this way:

I can't off the top of my head think of new skills at all other than learning to use the computer. Some of the staff were not computer literate at all and have had no computer

experience at all. We all certainly had to practice our typing! I really can't think of anything new. (COP, Circulation Supervisor).

I don't know that the skills are any different: it is electronic rather than paper but the skills are still the same. (CNSD, Co-ordinator Support Services).

It is the opinion of this researcher that different, but not necessarily new, skills are being asked of staff in public libraries following automation. Traditional library skills retain their importance along with newer skills in relation to the automation. Greater emphasis must be placed

1. Upon interpersonal skills:

It's more airy-fairy but one of the skills ... is how to maintain your customer service relationships when you are at the same time doing rather more complicated things with your hands and having to think. (SE, Director of Arts & Libraries)

More interpersonal skills, more emphasis on dealing with problem patrons, being diplomatic, being tactful, finding a way. (COB, Chief Librarian).

2. Upon the knowledge of libraries:

I think looking at the service as a whole throughout the borough. Whereas before the computer came each branch was very much its own independent unit. Now because of the way the database is constructed and because of our interlibrary reservations it is necessary to look in a different way far more outside your own particular location. (BE, Group of Senior Managers).

3. Upon knowledge of library automation:

We have had to learn to use the automated catalogue; how to use CD ROM; learn circulation functions. They have had to get a little bit of an understanding about cataloguing ... they certainly have to understand it because it does make a big difference to figuring out what is on the screen and why certain records are entered in certain ways. (CNSD, Circulation Supervisor).

Johnson (1991) has also seen this demonstrated in her research and says:

Respondents indicated that skill requirements have increased at all levels in the library. The new skills are conceptual as well as technical and reflect the new paradigm evolving. Library staff members are expected to see the "big picture" to broaden their viewpoint of the library organization and their understanding of the interactive nature of operations, and to use their judgement to discover ways to improve the automated process. (Johnson 1991).

The skills required of staff in an automated environment will be similar to the skills they currently have. Areas where skills will need to be emphasised will be particularly in the area of

interpersonal skills, as well as an increase in their knowledge of libraries and knowledge of library automation.

5.4 Blurring of Job Boundaries

It has been observed that:

With or without technology, the role of the professional is gradually being redefined so that an increasing number of formerly professional tasks are being assigned to paraprofessionals and library assistants. (Martin 1989b).

To this researcher there appears to be a definite blurring of job boundaries in Canadian libraries. In general the management climate in the Canadian libraries was more open, more organic and less hierarchical than that observed in the English libraries. This, in turn, allowed for more innovation in using staff in the best possible ways.

A more organic style of management is suggested during a time of changing conditions. Burns (1963) summaries this as:

Organismic systems are adapted to unstable conditions, when new and unfamiliar problems and requirements continually arise ... Jobs lose much of their formal definition. The definitive and enduring demarcation of functions becomes impossible. Responsibilities and functions, and even methods and powers, have to be constantly redefined through interaction with others participating in common tasks ... (Burns 1963).

A network structure where control, authority and communication are openly shared amongst all levels of staff contributes to the successful introduction of organisational change following the automation of one or more functions.

Johnson (1991) has also found that libraries are becoming less hierarchical. This in turn has increased the communication routes taken within the organisation.

Fewer hierarchical levels and more subunits are beginning to be reported in libraries with the longest automation history. Libraries appear to be making the most of automation opportunities in moving toward both centralization and decentralization of tasks and responsibilities as appropriate, taking advantage of a single machine readable data file accessible from multiple remote sites. (Johnson 1991).

Fewer professionally qualified staff are employed in Canadian libraries than in English libraries. This inevitably leads to the blurring of job boundaries as paraprofessionals and clerical staff are given greater job responsibilities. (See Goulding 1993). Later research reports this trend in higher education libraries (Daniels 1995).

Russell (1985) in writing about non professionally qualified staff says:

In the British scene two examples of staffing structures that allow for some promotion should be mentioned. University libraries have long offered the position of senior library assistant to experienced, often graduate, non-professional staff as well as to junior professional staff. This position would often carry some supervisory function as responsibility for an issue desk and its staff. The second, more recent in origin, has occurred in public libraries in Britain and results from the development of team librarianship. Because there are times when branch libraries do not have a professional librarian available, non-professional staff have been promoted to supervisory grades. But these are the exceptions. (Russell 1985).

Russell goes on to discuss paraprofessional levels of staff in European, American, and Australian libraries. He focuses on how a staffing structure has evolved that is absent in England:

The library associate and library technician developments in the USA and Australia recognize that there has to be a fundamental change in the boundary between professional and non-professional duties, that this change will result in a reduction in the amount of work considered professional and reserved for professional librarians, and that the enlarged responsibilities must be reflected in a new career structure for non-professional staff. (Russell 1985).

In this study several library technicians employed in Canadian libraries were interviewed. Although questions were not specifically asked about the qualifications held the types of positions that they hold are perhaps significant. They were employed as circulation supervisors (2 positions) and as the supervisor of automated systems. In one of the other Canadian libraries (COB) library technicians were being interviewed and hired as heads of branch libraries. In this library the successful candidates were required to take a specified number of courses at the MLS (Master of Library Science) level.

This raises the question, which in itself would make a separate thesis, of professional duties and responsibilities: what in libraries is considered professional work?

In most professions there has been a division between the professional and non-professional members. Criteria used to make the distinction have been qualifications, experience, responsibility and the nature of duties performed. In the wider profession

relating to information science the distinction is not necessarily clear, and it often seems to be somewhat artificial. (Beales 1989).

There has been a wealth of research completed on this topic in the library and information world. Other professions such as medicine or accounting require basic training to be supplemented by further courses leading to specialisation with regular professional upgrading or an apprenticeship style training followed by examinations. As Beales says the distinction between professional and non-professional qualified members are hazy at best.

Professional staff are required to carry out professional duties, but what are professional duties within the information field? (Beales 1989).

A further question here revolves around the so called traditional library skills and the newer, or seemingly newer, skills that an automated environment requires. A quick scan of the major popular library journals (*Library Journal*, *Library Association Record*, *Canadian Library Journal* for example) demonstrates that management issues are of paramount interest. Long and short range planning personnel management and financial management are all facets of the professionally qualified librarian's daily work load. To relate these issues to the use of technology, it is necessary to examine the role of those managerial level staff whose responsibilities are changing: that is, the middle manager. Further discussion of this will be found in section 5.5.

One critic who has examined this area in depth has stated:

Staffing patterns will change and are likely to include the following:

1. New personnel requirements, job descriptions and procedures. The increased value of technological skills will alter the roles of professional and paraprofessional significantly with fewer positions requiring traditional skills;
2. substantial turnover and disruption;
3. less job continuity;
4. changed staff attitudes;
5. Increased values of skills. Skills will become more highly valued than traditional credentials as individuals advance to new responsibilities. Personnel with traditional skills cannot "fill in" in the electronic library as they did in the traditional library. (Conroy 1981).

Close to two decades ago, Conroy predicted changed roles for library personnel as more automation was introduced into libraries. Her emphasis lies with the necessary skills rather than the traditional knowledge that has prepared librarians for their careers.

Attitudes of staff have also changed following the introduction of automation (see for example Shaw 1986). The psychological investment that personnel have in their jobs is considerable: technology will certainly impact on that investment although a staff member may not work directly with the technology. Anecdotes told by a number of the interviewees bore witness to this fact. For example, in introducing the first data entry position in the technical services department, the chief librarian (COB) choose to ask for volunteers from within the department to train for this new job. One clerk who did not volunteer for the training quickly became conscious that she was missing out on an exciting development. Over a period of several weeks she questioned a colleague who was taking the training before requesting the training herself. Tied to this was also a fear that she was too old to learn something new - the "can't teach an old dog new tricks" syndrome.

Power levels within the organisation have also changed. The person who has been there the longest or who is the most senior is not necessarily the individual who holds the balance of power in relation to technical knowledge or skills. Traditional knowledge although still very valuable is seen as a lesser skill to some. Is there a corresponding loss of status for the person who has the traditional knowledge rather than the one who has the technological knowledge?

It is the opinion of this researcher that blurring of job boundaries, particularly between paraprofessionals and professionally qualified librarians is taking place. This is more evident in Canada than in England although the situation in England is in flux. In one of the English sample libraries professionally qualified staff no longer oversee the branch libraries: the library has undergone a radical shift in organisational structure. The branch libraries are managed by paraprofessionals under the divisional librarians who in turn administer quite large units. It was planned that:

The original concept was that they would be "operational managers" - they would walk around to do the job, would not get too hot about policy, make sure the staff was motivated and all that. What has actually emerged is an expanding role as thinkers and as policy developers. I think that role is absolutely key and we are hopefully expanding that by involving them very closely in our business planning process next year. (SE, Director of Arts and Libraries)

In other English libraries in this study the Senior Library Assistants were taking on more responsibility particularly in assisting the public with reference queries. They were also taking on additional supervisory responsibilities for the clerical staff under them: in short, taking on additional duties that while mainly clerical in nature were once solely the province of the professionally qualified librarians.

Johnson (1991) also found this in her study of academic libraries:

The more routine functions are moving to lower levels of staff and the most predictable tasks are being absorbed by computers. Nearly half the libraries in the survey group reported a decrease in the number of lower level positions. At the same time, employees in support positions are finding their work more varied, interesting, responsible, and productive. A majority of the survey respondents reported that lower level jobs have been upgraded to reflect greater autonomy and accountability, new and more complex tasks, and higher rewards. (Johnson 1991).

She does go on to caution, however, that:

The transfer of many responsibilities to nonprofessionals is not, however, simplifying the role of professional librarians. (Johnson 1991).

The role of paraprofessionals in libraries is increasing as they take on greater responsibilities for areas such as circulation departments. This allows the professionally qualified librarians to expand and develop their roles as managers and administrators.

5.5 Role of Middle Managers

Examination of the role of middle managers has been undertaken by a number of researchers over the years. The degree to which automation would alter their roles was the focus of one early study:

Professors Leavitt and Whistler predicted a dichotomous structure with the middle manager gravitating either toward top executive positions, or downward to toilsome positions. Professor Drucker doubts that the computer will eliminate middle management jobs, but will force the middle manager to make important decisions. Thus his job would become more challenging and rewarding. Others have contended that, although the computer will serve to enhance the job of the future middle manger, the number of such managers will be reduced. (Jackson 1970).

Jackson (1970) reported in his study of middle managers that responsibilities would increase as result of the computer, that decision making would devolve downward, that increased job specialisation would occur and that increased skill levels would be required to perform their jobs. These skills have been seen and reported by the middle managers interviewed in the present study.

The role of the middle manager is changing within the public library service. Traditionally the middle manager has been the funnel position: transmitting information both upwards and downwards in the organisation:

As managers they literally function as the person in the middle between the supervisors and staff and the upper levels of management. They are the channel through which communications flow in both directions. When decisions are reached, it is their responsibility to translate the decisions into plans and to implement the plans. (Bailey 1987).

Bailey also provides a broader definition of the middle manager and the role he or she plays in the library:

The middle manager is the person who is above the first level of supervision and below the top level of management. In the typical academic or public library she or he is the department head and/or person who is a staff specialist, such as those responsible for personnel, accounting or systems. The formal definitions range from one who supervises four or more professionals to one who is a department head and/or responsible for a function. (Bailey 1987).

Interviewees were asked how they themselves would define their management level: senior, middle or other. While this was a small survey, the individuals who said they were middle managers certainly fit the definition as given by Bailey (1987). The interviewees who identified themselves as middle managers had job titles such as Senior Cataloguer, Head of Adult Services, Lending Librarian, and Library System Manager. All of these individuals were heads of departments, or had a speciality qualification, such as a computer background, reference experience or a background in personnel work. Not all of the individuals who defined themselves as middle managers (Canada 14, England 9) were professionally qualified librarians: in Canada six paraprofessionals were interviewed while four senior library assistants were interviewed in England.

Bailey has done some work comparing library middle managers with those in industry to determine what differences there are in their roles. Her findings suggest that:

1. The middle management level in business encompasses a wider range of positions than those in library/information services.
2. Industrial and business managers often have more fiscal control than do managers in library/information services.
3. Libraries/information organizations usually make available training only to those who have administrative responsibilities.
4. Library/information administrators do not stress productivity to the degree that business and industrial managers do. (Bailey 1987).

The researcher's own observations tend to support the comments made by Bailey and the earlier comments of Jackson. Middle managers in the selected study libraries are being given more fiscal responsibility. They are taking more training and while productivity to the degree stressed in business is not as evident, performance standards (see report on Luton libraries, for example) are being introduced into a number of libraries. Decision making is being devolved downwards, job specialisation has indeed happened and increased skill levels are required by middle managers. A deputy chief librarian who supports the devolvement of responsibility says:

When we say middle managers I am thinking of librarians, supervisors, technicians at the first level of management. Our job is growing as senior managers because the organization is growing in complexity and size so what I see is a need to shift down more, delegate more to our middle managers. They have got to let go of some of the responsibilities that have been traditional in their roles and delegate them down to another level of staff. (COO, Deputy Director).

Levels of responsibility are changing. One of the tenets advocated by Peters and Waterman (1982) is that the fewer reporting levels in the organisation the better the organisation. While not necessarily a deliberate policy, this is happening in some of the libraries where interviews took place. Wright (1995) in his research also supports the move to flatter organisational structures. The effects on the middle management level are that they are required to take on more responsibilities and in turn to delegate to their staff:

We [senior management] are happy to delegate down more and more stuff to accommodate all the new things that we have to do. We are a very flat organisation. We have never developed a tremendous superstructure. It is very much in transition. (COB, Chief Librarian).

Reports of flatter administrative structures have been cited in the literature in the past few years (Schroeder 1986; Bailey 1987 for example). One of the Canadian libraries in the study had completed a total restructuring of their administrative structure just prior to introducing their

automated system. This library now has three very large service sections whose heads report directly to the chief librarian. Within each of these sections there are a number of subsections each with responsibility for a particular activity.

The trend in business and industry is to reduce the middle managerial level via layoffs, retrenchments, realignments in organizations, and modifications in management style. The forecast is that the library/information organizations in the future will require innovative, creative people to manage operations at all levels of the organization. There will be a flattening of the organizations in that more managers will be needed at additional service points. (Bailey 1987).

The role of middle managers is changing as more automation is introduced into libraries. They will continue to perform some of their traditional functions as well as moving into different spheres of operation. As a result:

1. More training is necessary as middle managers take on devolved financial responsibility
2. As technological changes occur middle managers will have to be up to date and aware of the changes and what they can do for the library.
3. Middle managers will need to continue to be aware of the training needs of their own staff and to ensure that it is carried forward.

5.6 Staffing/organisation changes

Technological changes reflect on all levels of staff within the library. Not only are there implications for individual staff members that have been examined, but there will also be changes within the organisation itself.

Approximately three-quarters of the libraries surveyed had made some change to their organizational chart because of automation. This could have been the creation of a systems department, the merging of departments, or the realignment of divisions within a department. (Buck 1986).

New positions, particularly an automation librarian/specialist or an entire specialist unit, are often created after automation. One library in the study (LE) now has a team of three who do all the training on GEAC in the system. Other libraries have created a special position (COM, COSC, SE for example) following automation. Libraries in both countries have chosen to link computer operations with an existing position and to bring in more support staff (GE, COP). Aberdeen City

Library found that it was essential to employ a systems librarian not only for training but also for the technical side of the automation process and general knowledge of technological developments:

Thus the development of staff training, especially in communication with staff, was seen as an integral part of automation development with the crucial factor being the establishment and training of a systems librarian who was well versed not only in the library applications side of automation but also in the technical aspects of system design and operation. Only by having such a person could staff training adequately meet its aims. (Herring 1986).

In a survey of 34 GEAC libraries, Buck (1986) found that new positions were created after the installation of the system ranging from two to nine staff:

The survey revealed the average GEAC installation was staffed by 1.98 machine operators, 1.03 system managers, .23 trainer, and .92 classified as "other", for a total of 3.96. This configuration is flanked by the high GEAC site, with four machine operators, one system manager, one trainer, and three others, for a total of nine, and the low GEAC site, with one machine operator, and one system manager. (Buck 1986).

Data from the current study demonstrated that not only are new jobs created but some jobs disappear. As the labour intensive activities are taken over by the machine, the staff are redeployed in other jobs that may be more intellectual.

Not only do jobs not disappear they are created, expanded, redeployed, reclassified and redirected but there are often additional jobs. It is a way to serve the public better and reduce the manual labour intensive activities. (COSC, Project Co-ordinator, Technical Services and Acquisitions).

Another librarian commented that her job had not really changed since coming to her current position although:

The responsibilities are the same - the nature of how it is fulfilled has changed. The IT developments have created more procedural and organisational changes and there are increased staff management aspects. (COSC, Head of Reference).

Although job responsibilities have not necessarily changed, the approach one takes to do the job has changed. It is rare that anyone claims to have more time as computerisation has taken over the routine jobs but rather to have less time as new responsibilities take up the slack. A key point made both by the interviewees and throughout the literature is that automation does not save staff. Responsibilities within a job did change and often some redeployment within departments does occur but overall staff were not saved as a direct result of automation.

It is essential to realise that automation will not save staff. It will improve efficiency in the sense of speed and accuracy of operation, but if anything, the need for staff will increase, at least during the implementation process. (Dickmann 1990a).

Not only will there be changes to existing jobs but the power balance will also shift within a department or within the library system as a whole. Decision making will shift to the lowest possible level as Dakshinamurti found:

Hierarchical lines are blurring and middle managers are expected to be needed much less, as more and more often computers will enforce standards and supervision. Decision making will be at the lowest possible action level. (Dakshinamurti 1985).

Earlier research by Bulaong (1982) had also highlighted this point. There is a need for more technical training of supervisory staff so that they are able to understand the processes of automation as well as the mechanics of how to operate the machines.

Automation shifts power which is a concern of middle and higher level management, and it demands a new understanding of technical possibilities, if not actual expertise in areas previously alien to the manager. (Bulaong 1982).

In one library in the study a full examination of the organisation was undertaken before the automated system was installed. As a result, several departments were totally restructured or were swallowed up by a larger more generic department. In this case, it was the circulation department that merged into a department now called "support services" and the circulation function is headed up by a paraprofessional. The Adult Lending Service in this particular library system deals strictly with the collection: what is in it, catalogue inquiry and so forth not with the circulation function. Support Services also includes technical services and systems. The Head of Support Services reports directly to the Chief Librarian.

The Deputy Director of one library system (COO) stated that there was now a radically changed reporting structure in place after they introduced their automated system. They choose to delegate decision making downwards as well as examining where lines of reporting overlapped and were duplicated. Additionally they made redundant a large number of committees. Power shifts within the organisation along with a flatter organisation results in changes to the reporting structure and to the communication channels within the organisation.

In the next section, some of the training implications for the individual resulting from the impact of the IT in use in the library will be examined.

5.7 Training Implications

Conroy observes that:

Fast-paced changes prompted by new technologies and staff changes in the library will probably bring sporadic staff development. Crisis responses to immediate training needs will result, as it does now, in a collage of strategies rather than a clear and regular pattern. (Conroy 1981).

The training challenge will continue to be how to meet the needs of the individual and of the organisation.

5.7.1 For Clerical Staff

The training implications of deskilling are different dependent on the level at which an individual is employed. Staff need to be familiar with procedures and policies already in place and to shift to the new system quickly and smoothly. There is likely to be a transition period when the two methods of doing things are in place as one is gradually phased out. Clerical level staff will be expected to take on greater responsibility with an automated system in place. Training will be necessary to carry out the full extent of these responsibilities. Some clerical staff will be expected to supervise other clericals at the circulation desk: they, too, will require training in supervisory practices.

Particular attention will need to be taken in order to ensure that clerical staff understand the technology in place. As they are the face of the library to the general public they must be very familiar with the equipment in use and also to be able to explain its use to an inquirer. Beales emphasises this point:

Most of these systems and procedures break down into basic clerical and manual procedures, many of which can be automated. Even with clear explanations, the assistant may not fully appreciate the whole extent of the procedures, the complete picture. (Beales 1987).

Staff who are new to the library system will have fewer preconceived ideas about how things are done and will therefore require a different kind of training. They will need to know about the

library and how the various departments and sections fit with one another. As they will have known no other system they will be unable to make comparisons to how "it used to be done".

Suggested courses here would be concerned with operating the equipment, familiarisation with the cataloguing record and how it is developed, MARC standards, general library orientation along with interpersonal skills training.

5.7.2 For Paraprofessionals

As paraprofessional staff will have expanded roles following automation, they may benefit from training more than some of the other groups of staff in the library. They will not only be moving into more technical and supervisory positions but will also be more visible to the public. This was observed and commented upon by Atkinson:

Because so many of the housekeeping routines of librarianship have been automated, forcing their operation to be transferred from professional staff to the support staff, a whole new strata of library employees is evolving. In fact, the library assistants are becoming the library operators, the managers of the library's daily activity. (Atkinson 1984).

If indeed as Atkinson states the paraprofessionals are becoming the library operators they will require considerably more training than any other group. They will need to know not only the day to day operations of their own department but also the interrelatedness of all the departments. They will need to be familiar with reference materials and techniques, with cataloguing and classification schemes: in short, the sort of traditional knowledge that library schools have provided as standard.

5.7.3 For Middle Managers

Middle managers are sometimes the forgotten employee when training needs are being established:

At present there is no inhouse training specifically geared to the needs of middle managers and this lack is being felt increasingly. As well as further development of "people" management skills, there is an increasing call for resource management skills, so that managers have the skills to develop and run more effective and efficient services. (*Into the 1990's* 1989).

In the current economic climate the words effective and efficient go hand in hand in describing the ideal library service. Middle managers who are responsible for carrying out the directives of senior management need the resource management skills mentioned in the previous quotation to develop efficient and effective services.

They are more managers and less workers if you like. In the past middle managers tended to do a more advanced form of the job that the staff that they managed performed and their management was sort of something they did with the other hand as time permitted. When you move into an automated operation where so much of the rote work is cleared away it becomes more important to effectively manage our resources so it is my perception that it gives the managers more scope to be managers. (COM, Director Technical Services Division).

"More scope to be managers" is a key phrase. More training will be essential as more managerial skills are required of this level of staff. Responsibilities for finances and for personnel as well as being knowledgeable about information management are all significant areas for all middle managers.

I see them [middle managers] more as information brokers and I see them as being managers as opposed to librarians where they have to manage the information technology, manage the personnel, manage the financial resources that are often associated with the information technology which is quite different from a librarian of 20 years ago who had a materials collection but who didn't have that much financial control over it. (COM, Director, Central Library).

Fiscal control will be part of the new assignments for these managers. In many libraries the middle manager level has not had direct control over finances and therefore has not needed financial management skills. This is changing and indicates an area where new skills for middle managers are needed.

Current staffing patterns utilize professional (i.e., degreed) librarians in areas requiring traditional professional skills such as library administration, evaluation of materials, and organization and delivery of information and materials. In the past 10 to 15 years management and budgeting skills, public relations abilities, and an awareness of technology have gained importance for professional staff. (Conroy 1981).

Skills that middle managers require are very diverse. Some of the skills and knowledge base required are in the areas of:

- publicity and public relations
- technological awareness and how it can be used
- financial management skills

- personnel responsibilities

5.8 Conclusion

Deskilling of staff, particularly clerical level staff, is not perceived as occurring in the libraries in this study. In fact, employers are requesting more skills from their staff especially those at the clerical level. Paraprofessionals and middle managers are both taking on greater responsibilities and expanded specialisms as more automation is brought into library operations.

Blurring of job boundaries is occurring in the Canadian libraries in this study. Reasons for this are many and include: the use of fewer professionally qualified librarians throughout the library, the higher usage of library technicians¹, a less hierarchical structure and the design of individual positions. The implications for training where the blurring of job boundaries occurs are far reaching. Traditional skills along with the newer skills required for the automation of services are essential. Both must form part of the training of paraprofessional level staff.

The role of middle managers is in the process of change. Increased responsibility for personnel management, increased fiscal responsibility and more emphasis on managerial responsibilities requires a different manager from a few years ago. Today the middle manager must be a manager not simply a supervisor. Training implications are considerable for this group and will continue to be a concern for senior management.

¹. Library technicians have completed secondary school as well as completing a two year course at a community college. The course includes theoretical as well as practical issues and a work experience placement in a library. In this study the technicians that this research met had in addition to their technician's training a university degree and some other qualifications, such as teacher training.

Chapter 6

Assessment of Training Needs

6.1 Introduction

In this chapter, the methods used to assess training needs will be examined. The training cycle begins with assessment: this chapter and the three that follow will use the training cycle as a model to fit the findings of the study into context.

6.2 Training Needs Assessment

Acknowledging that there are training needs is the first step in the process to determine what those needs are. This senior manager recognises his own limitations:

I must confess that I've been under delusions all these years that you just do the same old job only you do it with the light pen. [It] poses far more problems, far more situations, exemptions, etcetera. It is trying to be more disciplined and learning to handle all the scenarios. (COM, Chief Librarian).

Automation poses problems that training can assist in solving: determining those training needs, both the obvious and the more subtle, is accomplished by formal and informal means.

6.2.1 Assessment

In the sample libraries the training needs of staff are assessed by both formal and informal methods. Needs identified ranged from learning related to a specific task to those items requiring considerably more judgement. Respondents also discussed what they saw as the new skills staff have had to learn since the introduction of IT as well as the gaps they perceive in the training as automation is introduced.

Automation of libraries is just one of many elements that has led library managers to re-evaluate their training programme:

Major changes in organization and method have been experienced and the library workforce has, in many respects, been de-skilled and re-skilled over a short space of time. (Baker 1990).

The questions of de-skilling and re-skilling were discussed in Chapter Five. Assessing the training needs and where they fit into the library system demands different skills from the library staff. The assessment should:

Discover not only those skills required to do a particular job, but also the effect rapid change has on morale, on interpersonal work relationships and on the ability to adapt. (Conroy 1981).

Traditional skills are seemingly less valued than the new skills that automation requires. This can lead to fears of obsolescence, fears of being unable to cope with the technology and the changes demanded by it as well as fears about the dehumanizing aspects of automation. Training and staff development can assist in the process of acceptance of the technology. (Conroy 1981).

6.2.2 Methods Used to Assess Training Needs

The methods used to assess training needs are very similar in Canada and England. Respondents were asked whether specific methods (see Table 3), often cited in the literature, were used to determine and assess the training needs. In all cases the results were similar. The methods used are: staff appraisals, discussion with individual staff members, requests from individual staff members, management directives and simply seeing the need and acting upon it. Furthermore, the interviewees suggested a number of additional methods used to assess training needs. The total given for each country includes staff from all levels interviewed, that is, senior managers, middle managers and senior library assistants.

Table 3

Method	UK	Canada
Staff appraisal	19	21
Discussion with individual	15	21
Request from individual	14	22
Management directive	10	19
See need, Act upon it	7	18

Overall, there were more senior managers interviewed than staff members at other managerial levels: the individual responses appear somewhat weighted towards them. However, as they are the staff who will be implementing the various methods of assessment it is assumed that senior managers will be more familiar with some of the more common methods of assessment such as staff appraisal.

As interviewees could select more than one assessment method there is an overlap in numbers given. The impression the researcher gained from some of the interviewees was that responses tended to be somewhat theoretical. Although the respondents may have know of the assessment method and its validity, it was not a method in common usage in that library system.

Staff in all the sample libraries tried to institute some method in order to determine the training needs. Whetherly (1994) lists a number of methods to assess training needs which overlap substantially with those found in this survey. Not all respondents felt that the methods in use were the most appropriate ones for them. In one library system in each country, staff were in the process of an intensive training needs analysis:

We have a three year plan for training which has 23 different items on it such as customer care, multilingual skills, searching online and so forth. We are looking at the priorities for public services, support services. Is one service any more in need of training than any other? (COO, Manager Support Services).

Staff in the libraries were eager to determine the needs: there was an urgency about training that perhaps is due to the rapid changes the technology has brought with it. A senior manager, who is not a professionally qualified librarian, had this to say:

Training is essential in the organisation. I think that the advent of information technology has helped increase the profile of training; that we very clearly needed to train people on this new foreign way of doing things. It has been much easier for training to become a higher profile area in the management of community resources. So I think it has an indirect, very positive benefit on that. It makes all of our lives easier but particularly in libraries. Information is our business. I think that anything we can do to keep ourselves at least at pace with it if not on top of information technology, it behoves us to do that. (COL, Manager Personnel Services).

This serves to emphasise that technology and training goes hand in hand as well as stressing the changes that technology has brought to the library world.

6.2.3 Individual Methods of Assessment

6.2.3.1 Staff Appraisal

Whether staff are aware of it or not, informal appraisal occurs constantly. Terms often used to describe the formal processes are performance appraisal, staff appraisal, and other similar terms. Two authors, by way of introduction, have this to say:

Performance appraisal is rarely done on a regular basis, though the Licentiate scheme has made it necessary for newly qualified professionals, and this may give an impetus to establishing staff appraisal frameworks. (Jones 1985).

The theory is clear. A development need is identified, either through the appraisal process, job restructuring, or the need for performance improvement. (Peel 1989).

In many libraries the norm is for informal rather than formal staff appraisal systems. Often the interviewees prefaced their remarks by asking for a definition of staff appraisal. Some interviewees also stated that either the library system had no staff appraisal scheme or was in the process of developing a system. Most, however, did agree that this is one method that could be used to determine training needs.

One library in conjunction with the union does have a scheme they call "job consultation" which in effect is an informal staff appraisal system:

Job consultation has been set up by county council: you meet with a supervisor away from the work environment to talk about the job. Each supervisor meets with 5 or 6 people. It is done yearly, the employee must request the meeting, and training may be one issue discussed. (LE, Lending Librarian).

Job consultation: council plus NALGO scheme: a voluntary scheme whereby an individual member of staff has the right annually to meet with supervisor to discuss their job but it is not a formal staff appraisal system. No records are kept of the discussion. (LE, Training Officer).

The job consultation process must fill a need in order to be continued. However as no records are kept, and therefore there are no written objectives for staff member and supervisor to work towards, the value of the system would appear to be lessened. The whole question of the worth of staff appraisal in order to assess training requires further examination. At least one author questions the validity of the current appraisal systems in use in libraries and argues for a revised

system based on the relationship between performance appraisal and the automated environment:

Nothing less than a complete overhaul of the philosophy and rationale of performance appraisal will result in a system that fits the automated library in the service economy / information age. (King 1990).

In theory the process of a one on one meeting to discuss what has been accomplished in the period under review should be very much two way. Both the supervisor and the staff member have equal parts in the conversation. In setting mutually agreed goals for the next period how often is training seen to be a formal part of that equation? Judging from the positive but hesitant responses to this question it would appear that not much thought has been given to the role of staff appraisal in determining training needs. A 1990 survey of 600 UK firms states that only 20% of the firms feel that appraisal schemes are effective (Bird 1991). Bird suggests four causes for this failure:

1. The appraisers are not trained in how to use the scheme.
2. Appraisees are not sufficiently aware of what it is all for.
3. There is an absence of follow-up - which would normally involve some form of training.
4. The scheme is linked to salary increases. (Bird 1991).

There are valid arguments not only for staff appraisal schemes but also for the other methods of determining a training strategy. In many libraries the question of salary increases based on performance is academic. Budgets are determined by outside bodies, often a local municipal or provincial government, which does not allow for any flexibility in equating salary increases to the performance review. This does appear to be changing as some performance related pay schemes for use in libraries are being developed and implemented (see for example the discussion in *Library Personnel News*, Vol. 5, No. 3). What successes these schemes actually have remain to be seen. Where there has been no emphasis on pay for performance, library management can take a more creative approach to rewarding innovation, outstanding performance or specialised qualifications:

Many libraries ... can design a system which focuses on the individual's development rather than the administration of the library. (King 1990).

Staff in libraries do need to take sufficient time to ensure that supervisors and staff members are clear as to what the appraisal process is to accomplish.

Many organizations operate appraisal schemes that are designed to provide a platform for regular discussion on objectives, achievement, development needs, future career direction and potential. The typical scheme will identify areas where the appraisee has performed well and where improvement is necessary against agreed objectives. (Moorby 1991).

Both the staff member and the supervisor must agree on the areas that will take priority in the next review period, and how best to accomplish those objectives. Preparing both parties for the whole appraisal process is an area where there are definite training implications. Fears can be minimised if both individuals are clear as to what the process will accomplish.

Another method is performance appraisal which is set up by objectives: staff discuss them with individual supervisors, they are then collected and reviewed by personnel as they come in. (COL, Manager Personnel Services).

Does this practice, then, lead to some black hole: staff appraisal reviews go to personnel departments and then disappear from sight? To what use are the prepared reports put? Do the reports simply form part of the personnel record of that individual or are the recommendations about training acted upon? This is an area where further examination needs to take place.

Interpreting the needs identified with the training that is required is another area which in itself has training implications. Baker summarises the whole appraisal process by concluding:

What staff appraisal schemes can and should give both employer and employee is a mechanism for open and constructive discussion, criticism, feedback and future planning. (Baker 1990).

King (1990) sees future performance appraisal systems as being more wide ranging than the current systems in place focusing on the individual and his needs both on and off the job. As well, there will be systems that use multiple evaluations: self, peer, administrators, and the public:

Performance appraisal in the future will need to be suited to a better educated work force with individuals who have clearer ideas about their own career development ... The systems will be evaluated by their usefulness to all parties involved - administrators, supervisors, colleagues, teams, employees, clients - rather than solely for their use for administrative purposes. Thus, there will be increasing emphasis on self-appraisal combined with multiple evaluation of the individual. (King 1990).

More work is required to determine the place of formal performance appraisals for library personnel and how the material gathered which relates to training can be used most effectively.

6.2.3.2 Discussion with Staff Member

Although similar to performance appraisal, a simple discussion with an individual staff member tends to be less formal and less intimidating. Some of the interviewees stated that group discussions were also helpful: a need may not have been consciously acknowledged until a co-worker in the group mentioned it. Some of the libraries where interviews were conducted have training as part of their formal staff meeting agenda as these comments indicate:

At regular staff meeting we do have discussions of training needs. (SE, Senior Library Assistant).

Formal and informal staff meetings, mainly peer group meetings but also some up/down integrated meetings. (SE, Information Service Manager).

Other ways to assess training needs: new services are discussed in the management group meetings held within the service group. (CNSD, Co-ordinator Adult Public Services).

Within peer group or management group meetings training needs are often identified: a new policy or direction of service may require training for the individual that undertakes it.

Discussions are also held sometimes about the quality of work performed, whether the individual or the team is working to standard:

Trainees want to know whether their work is "up to standard", particularly as they are very unsure about standards expected, and get too little help on this, except when things go obviously wrong. It seems that many libraries are reticent about the quality and quantity of work expected from their staff. (Jones 1985).

The establishment of standards for work is also considered part of the appraisal process. The mutually agreed objectives need to have specific measures attached to them in order to give both the employee and supervisor a qualitative and quantitative measure.

6.2.3.3 Request from Individual

Individual staff members can also directly request training:

Have done 2 needs analysis throughout the organisation 2 years apart. Interviewed staff from all levels, in all departments. Asked what they, the staff, felt their needs were and asking their supervisors what they thought the needs were for their staff. (COL, Manager Personnel Services).

While very similar to the discussion that takes place with an individual, in this case the process is initiated by the individual staff member, not the supervisor. This allows for recognising a need that may not have been apparent to the supervisor and from which others at the same level could also benefit.

Every line manager is expected to give consideration to training needs, to provide opportunity for staff to make their own needs known. (BE, Group of Senior Managers).

The first quotation used in this section indicates that staff in this library have tried to ensure that all staff views are taken in account when identifying the training needs. A formal analysis process has been adopted as well as asking what supervisors and staff feel their own needs are. Once again there is a clear training implication in the communication aspects: not only do items have to travel down, they must also travel up the library hierarchy.

6.2.3.4 Management Directive

Management directives can be issued concerning training. The interviewees tended to respond to the question by citing examples of training needs that met either a specific situation within the library or was imposed by an outside body. In the former category staff offered the example of the orientation required for their imminent move to a new central library. In the latter situation, examples were given of training courses designed to familiarise staff with legislation regarding the use of hazardous substances in the workplace or for general first aid training.

6.2.3.5 See Need and Act Upon It

Alert supervisors will be on the outlook for individual staff member training requirements.

The term "staff development" invites the question "development toward what?," but the reality is that the goal of most staff development programs, if defined at all, is too often narrowly limited to the perspective of the trainer, and should be broadened to fit in with the "big picture". (Lipow 1989a).

Seeing a training need and acting upon it is perhaps so obvious a method of assessing training needs that it could be ignored by most people. Managing by wandering about, beloved by management gurus (Townsend 1971, 1985 for example) in the late 1980s, make the supervisor aware of the developments that will affect his own staff. In addition it should also indicate the directions the library will be taking in the months and years ahead. One senior librarian stoutly declared that she does act upon needs she sees:

Well, I do! Step in and say well I don't think you know how that works. (RE, Bibliographic Services Librarian).

This is certainly a well-established method used by supervisors to determine the training needs of their staff.

6.2.3.6 Other Methods of Assessment

Myers (1986) found:

Few libraries doing formal needs assessment surveys before embarking on staff development in the automation area. (Myers 1986).

Moorby lists a number of techniques that are used to assess training needs:

There are many ways of analysing needs: observational techniques using precise time and distance measures, such as synthetic work measurement; observational techniques used in studies of supervisors and managers; highly specialized ways of investigating perception and psychological constructs, such as the repertory grid; means of analysing situations such as force field analysis; systematic ways of analysing business situations through a SWOT (strength/weaknesses, opportunities/threats) analysis; the use of expert groups to identify the characteristics of good performance; and many others. In some respects all these approaches endeavour to be 'objective'; they describe the situation and make or record judgements on what is good or bad. (Moorby 1991)

Objective methods to analyse training needs are used in libraries but the sophisticated instruments listed by Moorby are not the norm. Rather than focusing on specific tools to assess training needs, Bird suggests a check-list of questions to be asked on at least an annual basis.

The planning process will reap the benefits and a training plan can be developed:

Are we planning any new initiatives which will require skills which we lack? ... Are we, or will we be, dependent on one or two people for particular essential skills? ... Are there any aspects of our service to customers which have given rise to justified complaints and which indicate a need for improved services? Do we have supervisory and management skills in sufficient depth to meet future needs? Which people will retire in the next 12

months and what skills will they take with them? What is our forecast of other forms of natural wastage? What must we do to replace skill losses? Are there any people whose full potential is not being developed? (Bird 1991).

Once the key areas where training will be necessary are identified, the individuals requiring that training can be nominated. Objectives for the training can be drafted.

Rather than concentrate on a specific department or service point within the department, Thomas (1982) suggests that all training needs are organisation wide. He, too, suggests questions that the training director should ask. While similar to those of Bird, slightly different aspects of the service are stressed:

1. What types of new employees, i.e., with what skills, are being recruited and will be recruited in the future and for what positions?
2. What new programs, services, equipment, and/or products are to be implemented or are being planned?
3. What new technology, or technology new to the organization, is to be employed or is being planned? (Thomas 1982)

Thomas also stresses that questions need to be asked about the expansion of existing programmes, internal staff promotions, policy changes, and so forth.

A clear assessment of these factors establishes the context in which training will occur: the work for which people will be trained; what they need in order to do the work; what they bring to the work which can be utilized and reinforced through training. (Luck 1976).

Creth (1986) identifies job analysis and task analysis as part of the process to determine the skills necessary in a job. Two of the sample libraries, one in each country, were in the process of undertaking a training needs analysis:

Just agreed but not yet implemented a training needs analysis. [This comes] out of appraisals, discussions, individual training plans. (SE, Deputy Director)

Have done a training assessment [and] decided on goals and priorities for the next couple of years. (COB, Chief librarian)

Zeroing in on the specific skills, or the competencies, required for a job is the approach taken by another library:

Skill based approach: a systematic skill level identified, goals for the position not for the individual in that position. In order to do this job you must be able to do these things (COM, Chief Librarian)

Planning for the future is the route taken by another library to assess and thence to determine the training needs:

Other methods used to assess training needs: foreseeing the needs equally important: what do they plan to do, what services will be offered, and therefore what training will also be needed to complement it. (COO, Manager Support Services)

As the above quotation indicates there are many well known methods available that can assist library staff to determine what the training needs within their department are. Once the needs are known a training programme can be formulated. The level at which the training is given, the size of the library system, the complexity of the project and the staff available to carry out any assessment will all contribute to determining the needs.

6.3 Conclusion

The methods of assessing training needs are fairly closely paralleled in the two countries. The principal method employed is a discussion with the individual staff member either as part of a staff appraisal process or within a simple one on one conversation. A variety of assessment methods were available in all of the sample library systems. A few libraries are looking very seriously at their training needs and have developed a training needs analysis to determine the directions in which they should go:

What we are about to start is a training needs analysis for individuals so that we actually build up a dossier for each individual of what they actually require and we then use that as the building blocks for the training plan and try to build up a programme that actually relates to all those building blocks. And that we will be starting next year. Whether or not we will be able to produce anything very coherent to begin with I don't know but I think it is a better approach to it. (SE, Director of Arts and Libraries).

This quotation indicates a serious commitment to the staff and the need to develop what libraries see as their most valuable resource: their personnel.

Once assessment is complete, the next phase of the training cycle is the identification of training needs: this will be the theme of the next chapter.

Chapter 7

Identification of Training Needs

7.1 Introduction

Following the assessment of training needs, the skills respondents felt were essential for library staff to hold are discussed in this chapter. Also discussed in this chapter are the gaps in the training identified by the respondents.

7.2 Training Needs Identified

The needs identified by the respondents fall into two broad areas: needs that are traditional library skills and IT related needs. In the former area the skills required may be changed by the application of technology. For example, a reference search is changed by using online databases, but the interview process with the inquirer remains as the starting point. Other operations have been totally changed with the manual system totally supplanted by an automated one: circulation operations are an obvious example here.

7.2.1 Traditional Library Skills and Needs

These needs can be further subdivided into three areas: basic library skills, supervisory and management skills, and other skills.

1. Basic Library Skills

Traditional library skills were identified in two areas: public services and knowledge of the library's collections. Briefly the traditional skills identified comprised:

- circulation desk training
- excellence in service concepts
- physical handling of audio visual items such as CD's
- inquiry work for non professionals

- knowledge of the book and other special collections such as government documents
- a well-informed staff who are aware of the library's resources and programmes.

Staff in one of the sample libraries also had an acute awareness of the training needs of part time staff. Not all of these skills will be discussed in detail in this section as some have already been discussed in earlier chapters.

One interviewee summed up very succinctly the skills that are necessary in the library:

I have a strong belief that staff have to be given strong skills in patron service: this is the heart of library service, to give satisfaction on the job. Skills are needed to assist with problem patrons, to develop detachment from problem situations, to learn interpersonal skills to defuse problem situations, as well as how to do reader's advisory and simple reference work which is targeted to the clerical level staff. (COL, Manager Personnel Services).

While the term "patron service" was used by the interviewee just quoted the key phrase that repeated itself in the English interviews was "customer service": this appears to be the panacea of the 1990s. But for all the concern with customer service, very little in concrete terms is being done as this interviewee sees it:

One area where we fall down badly is when the youngsters become more mature staff and senior library assistants. We tend to think it will be all right on the night and we don't step in at that point and anticipate the need to train for their new role. (RE, Assistant Director Operations).

Peters and Waterman (1982) argue that excellence is something that has to permeate an organisation: top management must lead the way by providing the examples and the rest of the staff will follow.

Beyond general skills in customer service, the front desk staff will also need skills to cope with the information that they now receive on each item from the computer record:

And they are able to find out so much more on the, using a computer that they then need to have a better understanding of how to use that information. (COB, Head of Adult Circulation).

This librarian's statement includes thoughts that were expressed by a number of other respondents: the very pervasiveness of IT brings both benefits and drawbacks. The clerk on the circulation desk has access to the same screen and information as the person working in the

technical services department. Interpreting the screen to the public who suddenly find that they have more information than they were able to find out from the card catalogue becomes a new part of the job.

Because of the range of information available through one terminal some of our counter staff particularly are expected to look at bibliographic information more than perhaps they had done before we had the computer. (BE, Group of Senior Managers).

This indicates an expanded range of skills required from the circulation desk clerks. The evident training need is how the information available can be used, how it can be presented to the public, and how the staff themselves can understand it.

[The staff] have also had to learn how to train the public on the online catalogue particularly. And on the consequences of the online circulation system. Not so much on how to use it but dealing with the printouts that you get for reserves, expired, that sort of thing. ... Public service skills that they didn't think they would need. (COM, Director Central Library).

Interpersonal skills are also stressed here in the equation with public services and customer care. Several librarians specifically mentioned staff interactions with the public at the checkout counter (see GE quote in Chapter 5 for example). This was a fear mentioned more often in England than in Canada - that the machine would create a barrier between the staff member and the public. Anecdotal evidence suggests that this does not occur. Once familiar and confident with the operations of the system, staff do make the effort to continue serving the public in what has always been the normal way. It is more than simply doing the same job in the same way.

Wright (1995) also specifies improved library services for users in his research: the front end for the user needs to be clear and easy to use. He suggests that a question to be asked when purchasing a system is how much staff time will be taken in simply giving instruction to users. In looking at individual training needs Whetherly (1994) suggests that one area may be in inadequate staff performance: relations with library users are one area where performance is obvious.

However on the negative side of customer service, several respondents expressed the fear that staff could also become quite lax and suggest that any problem is a computer problem. Training should focus on this aspect of public service and concentrate on problem solving skills that staff can be given:

One of the biggest gaps in the information technology field is that the lack of recognition of the public service skills that staff not just in libraries but anywhere have to develop because it is great to say that the computer did it. But that doesn't solve the problem from the users point of view. Public service skills were completely overlooked. It was assumed that the automated circulation system was going to do everything. Well, it doesn't. Someone has to interact when the patron has overdues or has some other problem. (COM, Director Central Library).

Although troubleshooting the equipment when it fails is another skill, this interviewee continues the theme of public service by looking at alternative strategies to obtain the information needed by the inquirer:

You have to learn two skill sets: what to do to make it work and what to do when it doesn't work. I think the biggest one to my mind is also the skill of interpreting the technology to the public, to the user, becoming an intermediary. Instead of directing what maybe happens to actually becoming an interpreter of what is happening to the public. (COM, Chief Librarian).

Many skills are necessary here: reading the screen, assessing what information is given and then being able to teach the public to read and interpret it.

There is a whole range of questions that the patron can ask us now that could have been met with a shrug of the shoulder five years ago but now we do have the answer. We can tell when the book is coming back, who has it which was something we didn't know before. Actually it is almost learning not to give the patron too much information. (COM, Library Supervisor).

As can be seen by the examples and quotations from respondents, the range of public service skills and interpersonal skills needed by the staff has been extended following automation.

2. Supervisory and Management Skills

The next skill sets identified by the respondents were in supervisory and management areas: both the basic skills and more advanced techniques.

One area indicated by the respondents was training for staff members who have recently moved into supervisory positions or middle management positions. Included here were such skills as conducting interviews and cost centre management. This interviewee expressed it this way:

Training needs identified: management skills. Performance reviews, interviewing, the budget process, forecasting, dealing with financial statements are all necessary skills. (COO, Manager Information Services).

For those staff members who have been promoted into a position where they will supervise other staff the needs are more basic than those listed by the previous interviewee:

Training needs identified: supervisory skills. We have been promoting people and they need formal training to cope with it. (COP, Deputy Chief Executive Officer).

In many cases, staff promoted to supervisory positions will need training in order to take on that role particularly if they have never had that experience. At a higher level of management, many middle managers are being asked, for example, to take greater responsibility for financial planning and monitoring. Again, this is a new role for many and one that their formal training has not prepared them.

Other respondents had concerns about the staff who while not taking on supervisory responsibilities were having their jobs changed by the technological advances in the library. They are performing a greater variety of tasks and often a more complex set of tasks:

Non professional but well-experienced staff to undertake a wider range of duties than they currently do. (HE, Principal Assistant Borough Librarian).

Training for library assistants and part time staff was also highlighted. Learning programmes for them fuels management expectation of a more effective staff.

It is a tremendous bonus to be trained, to have a well-trained staff because when your staff aren't trained or when we are in the unfortunate position of running a lot of casual staff who have got even less training. The number of errors, mistakes that occur, things [that] have to be put right by hard pressed staff as it is. I mean it all compounds on itself so it is a tremendous good investment but it is not regarded as important [by the local authority who provide the funding]. (RE, Bibliographic Services Librarian).

Another interviewee detailed the ways in which senior management is supporting library assistant training:

There is certainly a lot of management initiative to provide training for library assistants. We support people on distance learning packages for the city and guilds library assistant certificate, for example, and for tourist information certificate of competence and it builds in a management expectation so that again creates a demand for library assistants. (GE, Deputy County Library Arts & Museums Officer).

Some of the more subtle skills highlighted were those which are intellectual such as problem solving skills. This is valuable for any staff member but particularly for those in a supervisory or management level position:

Problem solving skills. It challenges them to look at different ways other than the traditional ways to solve their problems. (COL, Manager Personnel Services).

Skills for staff at these levels, then, are both practical and intellectual.

3. Other Skills

The other skills identified were considerably more general in nature: sessions were held on hazardous chemicals in the work place and first aid training. One library system had an extensive programme to aid staff in the planned move to a new central library.

7.2.2 IT Related Skills

Here the skills fall into three main areas: online searching skills, the skills necessary for the automated circulation system and thirdly more general skills associated with automation.

1. Online Searching

In the words of one interviewee:

When you train people, how to search a database, it reveals a lot about how people approach a question, how people approach information need. ... Yes, I think when you are teaching someone how to search, that is a very specific skill on a database, for example. What isn't included and which I think often comes up in a session is the content: what is on the database. (COO, Manager Information Services).

Skills and knowledge sets required for work in libraries now are becoming both more specialised and broader: searching skills are different for an online database than for a search through the card catalogue. Staff must be aware of the difference and make appropriate changes in their approach. The whole interview process with the enduser will also be critical to this process. Equally the information content of the database needs to be part of the knowledge set of the searcher. Questions relating to the ease of searching and the reliability of the information within the database will be paramount here.

The searching skills are key in many libraries: there are several routes that can be taken to find the requested information. Some are more efficient routes than others: the choice of using free terms or a controlled vocabulary search will be one route. Experience will determine which those are. There was also a down side to this mentioned by one reference librarian. She suggested that some searchers always choose a particular route, key word for example, and that this may not be the best search technique for all searches.

You have to hone up, if you will, on your searching skills. Once you realise the implications of what you can get by using the system properly and you feel comfortable with it, I don't think there are other skills or newer skills that you need. (COO, Circulation Supervisor).

In addition to the skills of searching, quickness of search is another element that management in some libraries prize. Linking to a second database in order to do a thorough search is a further skill that comes with experience:

The interrogation skills that you require to use the computers for information purposes as well as to assess an online database system quickly in order to save money; how to interrogate our own catalogue efficiently; how to manipulate information within the acquisitions package - all those sorts of things. (SE, Deputy Director).

Along with searching skills, however, there still is a need for the basic library skills first mentioned by the respondents, the so called traditional library skills:

We have moved from the very non standard circulation database to the more standardised cataloguing, full MARC record database with authority control and a lot of it has emphasised if anything the need for more standardised training in the standard library skills if anything. Not even so much automation but what the ability the automation has meant in terms of going back and strengthening those cataloguing skills and that kind of thing. (COO, Manager Support Services).

Understanding what elements make up a bibliographic entry can be confusing. For some managers it is important that their staff do understand how the entries are formed:

In terms of, quite often, bibliographic information and the handling of it you find that there are aspects of that that perhaps people don't understand as well as you thought they might. That's perhaps the area where I'm most conscious of it. (GE, Deputy County Library Arts and Museums Officer).

Two areas of concern were highlighted by the respondents: ease of use with the database systems and an understanding of the elements within the database.

2. Automated Circulation Systems

With reference to the automated circulation system, respondents tended to limit their comments to the system itself. The respondents also emphasised the need for keyboard skills for all staff. Interpersonal skills were also deemed essential for all staff.

It is the same kind of work with the same end in sight, just done with a different tool. (COL, Circulation Supervisor).

For a number of librarians, the skills to operate the automated circulation system are very much the same as the skills to operate a manual, or semi automated, system. For them, it is a simple transfer of skills. It is in other areas, dealing with the library user, interpreting the information on the screen and so forth where they see greater changes:

It is electronic rather than paper but the skills are still the same. (CNSD, Co-ordinator Support Services).

In his work Wright (1995) places some emphasis on the necessity for training library users in the basics of the system. Keyboard skills are just as essential for the borrower in front of an OPAC as they are for the staff member checking out an item. The actual mechanics of operating the system is seen by some senior managers as being quite straightforward and routine: the physical elements are easy to pass along to new staff:

It has mainly taken our old skills and transferred them. You have to learn the functions and the commands of the system: it is not a new skill, it is just how to use the system. I think many of the skills have remained the same. (COB, Head of Adult Circulation).

In short the skills to operate an automated circulation system are very similar to those required for any other type of circulation control system. The differences are in the interaction with the borrower.

3. Other IT Skills

It is however in the broader IT area where training needs are harder to identify and specify. The very pervasiveness of automated operations makes for a very different environment in the library.

The computer functions as an organic whole, ties together all the elements of the library, more obvious than it was before. (COP, Adult Services Librarian).

Greater understanding of the library as a whole and how it operates is also necessary:

In technical services there was little understanding of what their jobs were, because they weren't expected to have it. With automation they have to have the understanding of what they do and how it affects the rest of the library operations. With public services it was more the gaps where people didn't know really how things functioned. Now they have to know more about the system than they ever had to before and how things work together. (COP, Deputy Chief Executive Officer).

This need to know how the library as a whole operates, how each department fits into the whole was stressed by a number of respondents:

Because the system is system wide, I think you do have to have a better understanding of how the library as a whole functions. And also why we can and cannot do things. And sometimes it becomes obvious that the people that you are training don't have that knowledge and they need it. (COB, Head of Adult Circulation).

Not only do all staff need to know how the library as a whole operates but they become more aware of what gaps there are in training. Knowing how to enter data is one thing, knowing how the data fit into the rest of the picture is quite different. A Chief Librarian concentrated on the procedures in his response:

You catch one thing and it has an effect way down the line in some other thing in an automated environment. Procedures and routine: there is a need to not make them one and the same. There are certain routines where you have to do certain things before 9 o'clock because that is what the computer needs at 9 o'clock. And in comprehension. Why. Why does it matter if I don't put a period after the semi colon between two brackets. (COM, Chief Librarian).

Staff need to know both the particulars of the operation and the wider picture.

Training in automation focusing on the hardware - the mechanics of the technology itself. It may show a gap in your service training where you haven't built that in and you have

to deal with that as part of your service to customers. (COL, Co-ordinator Central Library Services).

The whole area of working with the public was a concern in both countries not only in the aspects that the interviewee quoted above speaks but also in terms of bibliographic instruction.

7.3 Standardisation of Processes

Automation calls for strict policies that can be used in all situations: fines are charged without exceptions being made, loan periods are the same throughout the system and so forth. While an extensive public relations campaign can introduce and reinforce new policy decisions, the staff will need training in order to speak about these changes directly to the public.

Areas of distinctive activities associated with some library departments will disappear. This will also happen to individual staff members: local experts on specific procedures will no longer be required. Consequently all staff will have to have this same familiarity with the components of each job. The computer demands that certain tasks follow in sequence and so all staff will have to know all aspects of everyone's job.

Many staff members sense a loss of control in the automated environment. Even the most user-friendly systems require a significant amount of standardization and formalization of operations. (Hoffmann 1989).

There will also be a personal loss for the staff member who had been the local expert: motivation may suffer when the new system is introduced. However, this is not all negative as will be demonstrated.

A paraprofessional commented on the changes that had come about within her own position stating that computerisation had brought about complexity and considerable changes for both the clerical and management staff. She in addition commented on the standardisation process that has taken place:

The changes have been not only in the way you do things but also the way you are forced to do things. The perceptions of your job have changed: the computer has brought about a total restructuring of the staff. Prior to automation all the clericals had a specific area of responsibility. Now everybody has to be able to do everything - they

have lost that responsibility and this has resulted in quite a period of adjustment. (COP, Circulation Supervisor).

This too has considerable training implications: staff will have to be prepared for the changes not only in using the equipment but also in their whole approach to individual responsibilities. A team approach will certainly be necessary in the circulation area.

This is certainly an area where further research could productively be undertaken.

7.4 New Skills

In examining new skills Conroy had this to say:

The new skills needed in the library will be more costly, and perhaps more essential, than the present skills. Skills will become more highly valued than traditional credentials as individuals advance to new responsibilities. Personnel with traditional skills cannot "fill in" in the electronic library as they did in the traditional library. (Conroy 1981).

Since this was written almost two decades ago, the changes suggested by Conroy have occurred. Library staff are unable to "fill in" in the electronic library in the same manner as they could with traditional skills. The skills associated with the technology are those which will have increasing importance rather than the traditional library knowledge and skills. This was echoed a few years later by Bray:

Particular attention should be given to brand new skills connected with a computerised system, such as data management or network management. (Bray 1991).

Conroy lists some of the new skills that library staff should have:

Some of the more specific needs for training in the electronic library are predictable: how to know and select the technology and the people to do the tasks needed, how to operate new systems and equipment, how to design and manage new organizational structures and communication patterns, how to prepare for change and then sustain it. (Conroy 1981).

The new skills that will be necessary following automation include computer literacy, awareness of the library operations as a whole, greater awareness of interpersonal skills and effective group

working skills. Retention of the traditional librarianship skills such as reference interviews and knowledge of sources will also continue to be a need.

Computer literacy will be required of all levels of staff and will be a new skill for most. The ability to market the library's information services and its technology will be vital. Awareness of the many new information sources emerging will require more proactive efforts than are now employed. The ability to manage processing and servicing of new formats, such as microforms, digital data and new audio-visual forms, will be important. Perennial needs such as interpersonal skills, communication skills and the ability to work effectively in groups, will continue to be vital, significant at all personnel levels. (Conroy 1981).

Fewer than twenty of the respondents did not see that any new skills were necessary. This group felt that the functions were the same pre and post automation: the same skills were required only the method of executing them had changed.

Other than just what the automated systems can do for them, no [new skills]. (COM, Director Branch Services Division).

However, the majority of the respondents did see that all library staff had to have more skills, new skills and that they had to have higher standards particularly at the entry levels:

Computers require a different, and some say higher, level of skills compared with manual systems. Keyboard skills are an obvious example, but there is the wider issue of the way the computer affects the nature of the job which, with today's systems, may mean fitting into a fairly rigid and inflexible pattern of working. The use of MARC format require different skills from those of the traditional cataloguer, and a need to conform to external standards that may be difficult for such workers to accept. (Bergen 1988).

The nature of the job is changing quite dramatically. Staff must be able to cope with the rapid changes in technology and the benefits it brings to the library service. They may no longer physically work behind the scenes: the computer will allow them to be based anywhere within the library: this will lead to different staffing patterns and lines of communication. The management structure and administrative organisation of libraries are becoming more fluid.

In Canada the respondents were concerned about upgrading their bibliographic records to MARC standard. When a number of these libraries had first automated they had chosen to go with a quick bibliographic record that now was inadequate or inappropriate for the changes that had occurred in the system. One librarian explains it this way:

We realised that most of our public service people didn't have an understanding of the basic MARC record online. And where the index is pulled from, why if you went into title

keyword you would get access to certain things and not to other things. And that's where we are backing up and are going to do some basic MARC ... and how the indexes are actually built. And the whole concept of authorities which I guess we took for granted that people always knew because they always used LC headings and all this and now is the time to go back and explore what that really means in the automated system. (COSC, System and Special Projects Librarian).

The necessity for having a standard and one that all libraries could follow was a thread that ran through all of the Canadian interviews. By contrast the respondents in the English libraries did not express this same concern with standards or with maintaining a national standard for bibliographic entries. The reason here may be that many Canadian public libraries contribute to and subscribe to a bibliographic utility, such as UTLAS, in order to download catalogue records as well as contributing to the union catalogue of the national library for interlibrary loan purposes.

Along with standardisation of bibliographic records, a number of the respondents spoke of practice among their own branches becoming standardised across the system: no variations in practice would be seen after implementation of the system. An automated circulation system, for example, does make it easier to ensure that the same borrowing rules are being followed at one branch as at all of the branches. This librarian who was just in the first stages of an automation project expressed it this way:

What we will do is to have an ideal practice drawn up and slowly introduce to everybody because what I've discovered going around evaluating the libraries is that customer practice varies from site to site. Shouldn't do and you can't see a reason why it has but with the disappearance of one staff and the arrival of another points are not picked up and we keep finding these variations which have to be knocked out and standardised. (RE, Bibliographic Services Librarian).

One skill that was mentioned frequently was the absolute necessity for accuracy: online catalogues will search for what you have entered exactly as you have entered it. A card catalogue can be more forgiving of human error!

It is easy to assume that something [that] is straightforward and fairly simple is understood but it became apparent with the computer that what is obvious to you is not obvious to everybody and you really do have to spell it out in black and white and make it very very clear step by step. (COP, Circulation Supervisor).

How the staff go about doing their day to day work also changes. An action taken in one department impacts on a second department in ways that would have been unimaginable in a manually run system.

I think in procedures. You catch one thing and it has an effect way down the line in some other thing in an automated environment and procedures and routines and there is a need to not make them one and the same. (COM, Chief Librarian).

A major area that was not addressed in any depth by any of the respondents was the equipment itself: its acquisition, its installation, its maintenance. In most situations this will fall under the direct supervision of a technical specialist who may not be a qualified librarian: paraprofessionals are often designated to be the key staff person. Selected staff will have to be aware of the wide marketplace of hardware and software in order to make informed recommendations on the needs of their library. The equipment may require specialised housing that again will require more knowledge than the department head receiving the equipment may have. The last area, maintenance, is a major one:

It is amazing. Because we are looking after something like 500 pieces of equipment - lasers, micros, terminals, light pens. You have to know how to troubleshoot all that - printers always go wrong! - What is the harder thing is the actual knowledge of how all that works is conceptually very different. (COO, Supervisor of Automated Systems).

There is a tendency to forget that someone has to take responsibility for the equipment and that training, at least in simple troubleshooting, will be necessary.

My staff have all had to learn all about intelligent communications, how to troubleshoot equipment, the list is just endless. New skills ad nauseam. (COO, Supervisor of Automated Systems).

Further, in addition to new skills that staff will learn, the working patterns will also change: new teams will form bringing new problems and challenges:

Building new teams and re-assessing people's skills is part of the process, too. It's no good assuming things will go on the way they were, or that people will still be suited to doing the same job. (Bray 1991).

The shifting of boundaries between levels of staff will also be taking place as discussed in Chapter Five. This however is another area where staff will have to learn new skills as those who hold the technological skills will increasingly be sought after in the organisation:

The increased value of technological skills will alter the roles of professional and paraprofessional significantly with fewer positions requiring traditional skills. Newer library school graduates, specialists from other fields, and staff who have developed new skills will find positions and advancement possible. (Conroy 1981).

New skills such as those discussed here are necessary in the library. All levels of staff will be affected and the necessity for new skills will also determine at least in part other changes, such as those in the organisational structure.

7.4.1 Gaps in Training

Gaps in training were much more difficult for the respondents to define or to identify. To go back to Creth (1986) for a moment it is often the third element, "ability", which comes to light in trying to determine the gaps in training.

In the Canadian libraries there were almost four times the number of gaps identified as in the English libraries. There is considerable overlap in the responses from the two countries in some areas: for example, the need for national standards may also include the need to work to MARC standards. The emphasis given to communications within the organisation often underlined the need for better interpersonal skills.

One gap that the respondents identified was in the lack of standardisation of processes. With automation, policies can be implemented that will ensure that procedures are the same throughout a library system or that national standards, for cataloguing for example, are used at the local level. Consistency of service across the system is the aim.

Monitoring of the work done. In TS [we] do have a specific training process which does involve constant monitoring, quality control as it were. Allows you to assess the gaps as the person goes along. (COL, Senior Cataloguer).

A further need coming out of standardisation is for clear procedural manuals. Written documentation is necessary so that all staff have access to the same information.

There is as well a tendency to believe what is on the screen rather than what other senses may tell the staff member about a situation. It is that indefinable "ability" that comes into play here. Staff need to be able to communicate clearly what the information on the screen indicates. For example, an inquirer may believe that no material is available in a particular field where a wider search beyond the computer may prove more fruitful.

There is a tendency sometimes to take what computers say at face value without thinking about why it is saying that. (HE, Borough Librarian).

Staff in one library had a concern about the training needs of part time staff and that it was not being met adequately.

We employ a lot of part time and full time staff at a fairly low level both in terms of hierarchy and in terms of salary but we have nevertheless people who are likely to stay with us for some time and the question is how you can develop them so that they feel motivated to continue to provide a good service. (HE, Borough Librarian).

It was noticeable that it was mainly the part-timers who felt they did not receive enough help. This has important implications for the training programme: the fact that staff may only work half-time does not mean they only need half as much training. Making time can be even more difficult for these staff than for full-timers. It was also found that very little provision was made for formal training of staff who took up post after the changeover, which reinforces the point that training must be a continuous process. (Bergen 1988).

I did a home spun survey particularly aimed at the training needs of our part time staff. ... They are a very very valuable source to us ... but the problem is that they might come in for 3 hours/week, 3 hours in the afternoon, ... but they tend to do the same repetitive duties all the time and I can't help but think that they are underused: they have got much better skills. (HE, Principal Lending Librarian).

Another gap in training is revealed in a lack of interpersonal skills. Often this is shown in a corresponding lack of general knowledge about the library itself.

Interpersonal skills. And even the language with which to deal with the patron. "The computer says so" is not sufficient. Unfortunately it is our front line clerical staff, usually it is people we hire straight off the street, who may not be familiar with libraries until they have that position and yet they are expected to explain what went wrong. It doesn't work too well. (COM, Director Central Library).

Ease of finding material and a changed way of arranging materials within the library also emphasise the necessity for clear communication among library staff.

Communication skills are key, departments need to know what each is doing. The isolation has gone, children's material is side by side adult in the catalogue. (COP, Adult Services Librarian).

Keyboard skills are essential for all staff. With an automated circulation system, staff must key in all the relevant information. Reference queries are also dealt with via keyboard and the OPAC while clerical and technical staff continue to need good keyboard skills.

The only thing that really comes to mind is keyboarding skills. Many people who were hired before, although they had to have keyboarding skills for CLSI (Note: this library has since changed to Dynix) they weren't quite as important. Now with the bibliographic access it is much more important. Those who don't know how to type all that well are finding themselves at a real disadvantage. (COO, Manager Circulation and Adult Programming).

Another area where more staff is being used is at general inquiry desks. This has resulted in a gap in skills for the paraprofessionals that must be filled quickly:

Inquiry work is one of the biggest needs. Inquiry desks are now almost wholly staffed by non professionally qualified staff. This has exposed a very great training need, most urgent. (SE, Deputy Director).

Finally, this librarian articulates what she perceives to be the some of the gaps:

I do think it shows up gaps in what people know because we all assume that people know things and in reality there are things that I just didn't know. I've never been told. And people forget. We are all human after all. People will forget particularly if they work in the same building for a long time they tend to become cut off from everybody else. They might be linked electronically but even if they aren't all public service assistants if they don't remember it they don't know. It's as simple as that. And if they don't know do they know to ask? Or are they not bothered about it? Yes, it will show up gaps in people's knowledge. (HE, Principal Lending Librarian).

New skills and gaps in training are seen in all of the sample libraries. Training to provide the background, knowledge and skills is urgently needed.

7.5 Conclusion

There is an observable shift in the sample libraries to less rigid separation of traditional departments: all the functions have been interlinked, now is the time for the staff to also make that transition.

There is also a clear need for simplified and clearly written documentation: specifically, for training and other staff manuals. So many policy and procedural changes are made when an automated system is introduced that it is imperative that staff are kept up to date with the most recent changes. Staff in many of the sample libraries also commented that the material

produced by the vendors was unacceptable: they had to rewrite the vendor's manuals for their own staff. In her research Johnson confirms this:

Several libraries specifically cited the lack of adequate vendor-supplied training and documentation as a problem as implementation proceeded. (Johnson 1991).

This too will become a training need: how to write clear, concise yet thorough training manuals.

We were careless and didn't keep our staff training manuals up to date and we need that now. That became clear. And certainly the need to communicate the procedures and policies very clearly to your staff. On an ongoing basis. (COSC, Systems and Special Projects Librarian).

Not too many of the respondents specifically looked at who was doing the training and what preparation they would need in order to take on this responsibility. In introducing the circulation system many libraries chose to have a team training approach. A consistent approach and good trainers are two necessary factors to ensure success in training.

Training of the trainers to make sure that a consistent information is communicated and that this is also backed up by your documentation. (COSC, Head of Reference).

At least one library is looking beyond the skills for today in order to have a long term strategy that will ensure that the necessary skills are in place when they are needed:

With the concept of the training needs analysis that we can actually look perhaps much more objectively not at what we have actually, the skills we have to get into people quickly to help them do their jobs but we can look much more broadly now at the skills that they need, that they want for the future. So it is a bit of a new era for us again. (SE, Director of Arts and Libraries).

In conclusion, the methods to identify training needs, new skills necessary and gaps in the training given are similar in the two countries.

The final two elements of the training cycle, methods of training and evaluation of the training, will be the focus of the following two chapters. Some of the approaches that can be taken to solve the needs identified in this chapter will be discussed in the next and the final chapters.

Chapter 8

Methods of Training

Not everyone needs the same level or depth of training. Training components should be developed that range from a general overview that all staff will need to very detailed, specific training only needed by a few. (Epstein 1990).

8.1 Introduction

This chapter will examine the training methods in use in the sample libraries. Interviewees were asked if activities from a pre specified list (see interview schedule Sections III and IV) formed part of their approach to training. Follow-up questions allowed interviewees the opportunity to expand upon the initial information given and to add any information about other training methods used in the sample libraries.

Reference will be made to the literature that illustrates and confirms the statements of the interviewees and as well as illuminating the gaps in the training methods utilised in the sample libraries.

8.2 Training Methods and Activities

Each interviewee was asked if the items from the predetermined listing (section III and IV of the interview schedule) were training activities. This question resulted in a number of straight yes/no answers but also elicited some interesting data as to what is not perceived as a training activity. While such activities were viewed as being beneficial to the individual, interviewees stated that they fell into the staff development or personal development areas rather than strictly into the training area.

Short courses, workshops, job rotation and job exchange were on the whole considered training activities by the majority of the interviewees. Less unanimity was found on the question of job

exchange with an outside library and on visits to other libraries. One interviewee said that visits to other libraries were:

Educational rather than training (GE, Deputy County Library Arts and Museums Officer).

A second interviewee stated that although visits were almost always an interesting and worthwhile experience they were not training (HE, Principal Lending Librarian). The more closely an experience could be labelled training the more readily the interviewees agreed that it was training. As this interviewee said:

Training is geared to specific skill development - length and format of the course are not so important. (COL, Lending Services Librarian).

Writing and publishing activities, committee work in house, and committee work with a library organisation were viewed as a learning experience or as an element of overall staff development rather than strictly as a training activity. However, as this interviewee stated:

Everything is training. I try to take with my staff an evolving approach, a less static approach: I'm looking all the time to improve what they are doing and the system. (LE, Bibliographic Services Librarian).

Other activities considered by the interviewees as training are:

- Staff meetings where individuals make presentations on their department or speciality
- Film and video programmes that run during the lunch period, or other agreed times, on topics of library interest
- Mentoring system and the system of shadowing someone
- Self directed study
- Team work and peer coaching

All of these activities have value in any training programme. The above listing represents items that at least one interviewee mentioned as additional training activities and reinforces the idea that training can and should pervade all aspects of the workplace.

Each interviewee was taken through a listing of various training methods to determine which was employed most frequently.

8.2.1 Definitions

Training activities in the sample libraries fell into the following areas:

1. a continuation of training activities that existed preautomation
2. using the technology directly for training

The division between traditional library skills and the newer computerised skills is lessening as more technology is introduced into libraries of every size. Traditional reference interviews, for example, require the librarian to consider whether print or electronic sources should be considered first while establishing the question profile via the interview process with the library user. Even a more routine area, the circulation desk for example, also depends on a certain amount of technology.

8.2.2 Training Activities

Discussion with the interviewees concentrated initially on a number of traditional activities such as in house training, workshops and co-operative schemes with other libraries. Areas where the technology itself might be used to provide the training also formed the basis of questioning.

Three methods that the interviewees were questioned on were: CBT, video, and other methods of training that might involve technology. This latter category gave rise to a number of different methods of training not yet touched upon but only a few, such as the use of slide tape presentations, could be said to use technological means.

8.2.2.1 In House Training

In house training featured in all the libraries in this study. Edwards (1977) has examined this type of training in great detail and so it will be discussed only in the context of the responses from the interviewees. Further discussion with each interviewee elicited examples of in house training that included induction training given to new employees, telephone answering skills or departmental specific training such as the operation of the automated circulation system. One interviewee stated:

Most of our in house work goes to practical experience and presentations which usually include not just someone standing talking to people but using appropriate AV materials as well. (GE, Deputy County Library Arts and Museums Officer).

INTERVIEWS

Name: _____
 Position: _____
 Library: _____
 Date: _____

The first section gathers background information of the individual being interviewed.

SECTION I

1.1 What term would you use to describe your management position?

- Senior manager
- Middle manager
- Junior professional
- Other - Please specify

2.1 How long have you been in your current position?

- Years with this library

2.2 What other library or information positions have you held?

3.1 Have you had any training or experience with Information Technology (IT)?

- Yes
- No

4.1 How would you define your level of expertise with Information Technology?

- Very basic
- Moderately knowledgeable
- Knowledgeable
- Sophisticated user

5.1 How did you gain this level of expertise?

6.1 Has your job changed since coming to this position?

- Yes
 No

6.2 Have the changes been related to IT developments?

6.2.1 Could you specify the changes that there have been in your position?

6.3 Do you anticipate that the nature of your job will change with the introduction of more IT?

6.4 For middle managers only: Has your management role changed in the past 5 years?

- Yes
 No

6.4.1 Would you characterise the changes as expanding or diminishing your position in the organization?

6.4.2 Are these changes directly attributable to IT?

7.1 Using the following scale would you say that you, as an individual, have been relieved of the more routine work of librarianship as a result of IT in the library?

- Totally
- Some changes
- No real change
- Very little change
- Not at all

7.2 Has this given you extra time?

- Yes
- No

7.3 Do you anticipate that this will change?

The second section of questions relates to information technology (IT) both within your department and in the library in general.

SECTION II - INFORMATION TECHNOLOGY (IT)

8.1 What functions in your department or section were first automated? Date of introduction, if known.

8.2 What staff were involved in the original decision to automate?

8.2.1 Would the same range of staff be involved in making this decision today?

4

8.3 Why was this particular application chosen first?

9.1 What further IT applications are there in the library and in your department?

9.2 What do you see coming by way of IT applications for your department or section in the next 2-3 years?

10.1 What do you see as the advantages of IT in your department and in the library as a whole?

11.1 What do you see as the disadvantages of IT in your department and in the library as a whole?

I would now like to ask some questions about training in general within the library system.

SECTION III - TRAINING IN GENERAL

12.1 What do you understand by the term staff training?

12.2 What do you see as the goals of training in the organization?

12.3 To what extent are the following used to assess training needs?

1	2	3	4
Always	Often	Occasionally	Never

- Staff appraisal
- Discussion with individual staff member
- Request from individual staff member for training
- Management directive re training in specific area
- See need and act upon it

12.4 Are any of the above methods used in combination with any other method to assess training needs?

12.2 Are there other methods that you use to assess training needs?

13.1 What training needs have been identified in the library?

13.2 Which of these needs would you say is a priority for your department?

14.1 Training and staff development are by their very nature closely intertwined. Thinking only about training, would you define the following as training activities?

- Short courses
- Workshops
- Job rotation
- Job exchange
 - within own library
 - outside own library
- Visits to other libraries
- Writing and publishing activities
- Committee work
 - within own library
 - with LA group

14.1.1 What training activities are used regularly in your training programme?

14.2 Are there any other activities that you would define as training?

15.1 How supportive would you say senior management of the library is of training?

- highly supportive
- moderately supportive
- not at all supportive

15.1.1 Why do you say that?

15.2 How supportive would you say senior officers of the local authority are of training?

- highly supportive
- moderately supportive
- not at all supportive

15.2.1 Why do you say that?

I shall now move on to questions about personnel and resources available for training.

SECTION IV - TRAINING: PERSONNEL AND RESOURCES

16.1 Are all the identified training needs satisfied?

- Yes
 No

16.2 Please explain:

17.1 Who in the library has the responsibility for training?

17.2 Who actually does the training?

18.1 Using this scale, to what extent do you use the following in your training programme?

1	2	3	4
Always	Often	Occasionally	Never

- In house training
 Given by library
 Given by local authority
 Cooperative scheme with other local libraries
 LA workshop
 Other (i.e. non LA) workshop
 CBT or interactive videos
 Other - please specify

My next section concentrates on IT and training

SECTION V - IT AND TRAINING

19.1 Which IT applications are in use in your library:

- Office automation system
- Electronic mail system
- Online database
- CD ROM
- Cataloguing system
- Acquisitions system
- OPAC
- Microcomputers for public use
- Videotext
- Desktop publishing
- Other - please specify

20.1 As a result of the introduction of IT were staff redeployed FROM your department

- Yes
- No
- Not yet

21.1 Were staff redeployed TO your department?

- Yes
- No
- Not yet

21.2 What has this redeployment meant for you?

22.1 Prior to the introduction of an automated system, had any previous IT related training been given to the staff?

- Basic introduction to the system
- Computer literacy
- Nothing
- Other - please specify

23.1 What new skills have staff had to learn since the introduction of IT?

23.2 Does training for automation show gaps in other types of training given?

24.1 On job specifications for positions in your department is there now a requirement for training or experience in IT or automated systems?

- Yes
- No
- Depends on the job

24.2 Do you specify if this is desirable or essential experience?

- Desirable only
- Essential only

25.1 Are you finding that new employees do have sufficient skills to work with IT or have the background to very quickly grasp relevant information?

25.2 Do those who are returning to library work after a gap have sufficient skills to work with IT or have the background to very quickly grasp relevant information?

The following section relates specifically to automated circulation systems: their introduction, necessary training and ease of use.

SECTION VI - AUTOMATED CIRCULATION SYSTEMS

26.1 What circulation systems, manual and automated, have been used in the past 10 years?

System

Introduced?

27.1 Is the current system, XYZ system, easy to learn and to train others to learn?

- Yes
- No

27.2 Is this the system you would choose again in similar circumstances?

- Yes
- No

27.3 Why do you say that?

28.1 Was training given in IT when this system was first introduced?

- Yes
- No

28.2 Who were the people responsible for this training?

28.3 Who gave this training?

- Library staff trained by vendor
- Vendor only
- Library staff learned as they went along
- Other - please specify

28.4 Where was the training given?

28.5 Do you feel that this training as given was successful?

- Yes
- No

28.6 Please explain.

29.1 Has there been any further training as the XYZ system is upgraded?

- For the original staff
- For new staff

29.2 Do you belong to a user support group?

- Yes
- No

29.3 Do you find this a useful contact for training or other purposes?

30.1 Was a training file developed? A training file will mirror the live data in the system and give staff an opportunity to manipulate the information and develop confidence using the system.

- Yes
- No

30.2 Was the training file held online or as a hard copy?

- Online
- Hard copy

30.3 Was the training file designed with exercises and specific examples of transactions, daily problems, etc.?

- Yes
- No

31.1 Is the training file regularly updated?

- Yes
- No
- No longer an active file

32.1 Who has this responsibility?

33.1 Do you test staff competencies in the system?

- Yes
 No

33.2 How are the competencies tested?

34.1 Do you feel that this is something that should be done?

- Yes
 No

34.2 Why do you say that?

35.3 Do you feel that it is valuable for the staff, particularly front line staff, to have troubleshooting skills?

SECTION VII - IMPACT OF IT AND TRAINING

36.1 What training has IT made necessary?

37.1 Has the introduction of IT caused you to identify training needs in non technical areas?

38.1 With the wide range of IT in use throughout the library, who provides the overall expertise about the systems?

38.2 Does that person also provide the training?

Yes

No

38.3 How is this service provided?

I will now turn to the evaluation of training

SECTION VIII - EVALUATION

39.1 What methods are used to evaluate training in the library system?

40.1 What follow-up to initial training is undertaken?

41.1 Have any training programmes been altered as a result of the evaluation done?

42.1 What factors lead to training being unsuccessful?

42.2 What factors lead to training being successful?

SECTION IX - TRAINING IMPACT

43.1 What methods do you use to measure the impact of training on the individual?

44.1 Using the following scale, tell me to what extent you agree with the following statement:

Training in IT leads to more positive attitudes to having and using IT in the workplace.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
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44.2 Why do you say this?

45.1 In your opinion what is the impact on the organization of the IT training given?

46.1 Have I left out any areas relating to training and the impact of IT that you feel should be included?

The final section is on policy and specific strategies adopted by the library and is to answered by the Chief Librarian or senior deputy librarian.

SECTION X - SENIOR MANAGERS

1.1 What is your budget for in house and external training? That is, what is budgeted by the library for the training itself but does not include any staff or trainee salaries.

-] Less than £1000/year
-] Between £1000 and £5000/year
-] Between £5000 and £10000/year
-] Over £10000/year
-] Other - please specify

2.1 Does this budget cover:

-] Room rentals
-] Audio-visual items
-] Handout preparation
-] Course development
-] Other - please specify

3.1 Are there other expenses relating to training which are covered by other budget categories?

-] Conference attendance
-] Speakers fees
-] Other - please specify

4.1 Do you anticipate that this budget will, in real terms, increase, decrease or remain at the same level in the next 2-3 years?

-] Increase
-] Decrease
-] Same level

4.2 To what extent?

-] percentage

5.1 Have your staff ever been trained to deal with what is popularly known as the change process?

-] Yes
-] No
-] Partially

6.1 Would you recommend that this be done for all the staff including paraprofessional, technical staff, etc.?

- Yes
- No

6.2 Please explain

7.1 Was training an issue under negotiation when contract discussions with vendors of automated systems were underway?

- Yes
- No

8.1 Did you specify the amount and type of training you wished?

9.1 Did you ask about the training the vendor's trainer had had?

- Yes
- No
- Not a particular concern

9.2 Was the vendor's trainer also the system troubleshooter?

- Yes
- No

9.3 Did you find this was an advantage or disadvantage to your library?

10.1 How many of your staff were trained by the vendor?

- Staff

10.2 What was the composition of this group and how were they selected?

11.1 Did they become in effect a team of trainers or remain as individual trainers for a particular site?

12.1 Why were these individuals chosen as the trainers?

13.1 Has choosing this particular range of staff to be trainers been a successful strategy?

14.1 Was one person in charge of all aspects of the training?

[] Yes
[] No

15.1 Who was this person?

16.1 Was a training plan developed and followed?

[] Yes
[] No

17.1 What did the training plan include?

18.1 Has a procedures manual been developed to which all staff have access?

[] Yes
[] No

19.1 Is this regularly updated?

[] Yes
[] No

19.2 By whom?

20.1 Were you able to schedule training when you wanted it?

[] Yes
[] No

20.2 What constraints were there on this?

20.3 Performance indicators are being introduced in many industries as well as in libraries. Do you feel that the information they provide is valuable for the library?

- Yes
 No

20.4 Why do you say this?

20.5 In what areas do you foresee performance indicators being developed?

21.1 On the basis of your past experience would you make a similar decision today regarding automation, that is, choosing the route and method that you have?

21.2 Please explain.

22.1 Has IT and/or automation achieved what you had hoped it would?

23.1 Have I left out any areas relating to training and the impact of IT that you feel should be included?

None of the interviewees specifically mentioned courses designed to prepare staff for working with particular user groups: for example, young adults, senior citizens, or minority groups. Strategies and policies to provide services to groups such as these are necessary and can be introduced to the staff through a series of in house training programmes. There may be an overlap in courses given by the local authority or municipality in these service areas.

All of the interviewees also indicated that they were encouraged to attend training offered through the local council or municipality. Usually this training was aimed at a wider range of employees who would all have similar training needs: those who require word processing skills or customer service skills for example. Not all interviewees felt that these generic courses were as appropriate for library staff as for some other local council employees.

8.2.2.2 Co-operative Schemes

Co-operative schemes with other libraries were not utilized to any extent. In Canada, interviewees described a large regional network covering more than a dozen library systems within a larger geographic area that provided services including training to the member libraries. In almost all cases, the interviewees thought of like libraries acting together: public libraries with nearby public libraries for example. Situations where university, school, special and public libraries acted together in an area of mutual interest were not offered by the respondents. More than a decade ago, the libraries in Sheffield acted co-operatively to present training sessions for the counter staff in "Face to Face". A comprehensive discussion of the entire field of co-operative training is undertaken by MacDougall (1990) along with other examples of co-operative practice.

There are some subjects for courses that will be common, as noted in the Sheffield example given above, to any type of library and in this case co-operation among the libraries would be very beneficial. The cross fertilisation of ideas is bound to have benefits for all the libraries involved. However, where interviewees spoke of co-operative training it was with neighbouring library authorities. Examples of these training programmes were those concerned with services for young adults or children's services.

The researcher encouraged free discussion with the interviewees on the use of co-operative training. Missing from this discussion was anything that might provide a focus on automation issues or which would involve the user groups for a particular manufacturer's databases or

circulation system. In questions about the implementation of the automated circulation system all but one of the interviewees stated that the library system belonged to a user group. The researcher had anticipated that some co-operative schemes would have developed among the members of the user groups. This was not the case.

8.2.2.3 Library Organisation Workshops

The interviewees stated that workshops given by the local and national library organisations (LA, CLA, APLA) were used as part of the training programme. One complaint voiced in both countries was the cost of such workshops in addition to the travel and other related costs. Small training budgets do not cover very many outside courses.

Mention was made here about the courses given by vendors of automated library systems: the on-line database companies for example. Other vendors could however be offering more training to libraries: vendors of automated circulation systems offer some training already as part of their package.

The introduction and implementation of an automated circulation system is one that staff look forward to with joy and dread. Joy that tedious manual routines will be eliminated, dread that familiar operations will no longer be in place. It is essential that full preparation, including training and hands on experience, for this step is undertaken well in advance of the implementation date. Open communication with the staff about what the system can and can not do and what expectations the staff themselves have of the system should also be undertaken. Fears need to be openly discussed and managers should be aware of the hidden fears such as those detailed by Litchfield:

In many instances, initial vendor training is an overwhelming and perplexing experience for library staff. ... New ways of performing old familiar tasks are presented. Long lists of computer commands and screen displays must be mastered. Local policies and procedures that may not apply in an online environment must be reevaluated. Often, during vendor training, staff will realize that the system does not do what they thought it would do (or were led to believe that it would do) in a given module. It is also possible that entire job classifications cease to exist (typists, filers, etc.) and new responsibilities are discussed (data entry operator, on-line data maintenance, etc.). (Litchfield 1990).

Litchfield (1990) suggests that vendors take the easiest route in developing training packages: train the local trainers and then forget it. Comments from staff involved in working with

vendor's trainers have suggested that this is not the case: that the training given was thorough but that there could have been more training on individual modules.

The vendor has a vested interest in limiting the amount of training to the lowest level acceptable to a customer. Most vendors use a combination of two philosophies to accomplish this goal: they stress the "user friendly" nature of their system and they attempt to only "train the trainers", who then become responsible for training the rest of the library's staff and patrons. (Litchfield 1990).

While many systems are user friendly they are not intuitive: staff will need training to master the basic and advanced operations.

Litchfield (1990) suggests that most libraries can not afford to develop their own CBT (Computer Based Training) or videotape materials for use in training for the automated circulation system. This is an area that the vendor could develop and market as part of their training package. Additionally the vendor could develop a test database for each member library for training purposes, for bibliographic instruction and for testing new system developments.

8.2.2.4 Other workshops

Courses given by local universities and colleges were listed by the interviewees. The types of courses that the interviewees had taken were in the business administration and management area. Further examples of other outside workshops were continuing education courses given by schools of library and information studies. The spectrum of courses given here covered ranged from interview skills to sessions on copyright.

8.2.2.5 CBT

Only 5 of the interviewees stated that they used CBT as part of their training. In one case, the interviewees had developed a training database for use with the GEAC circulation system. In other cases the interviewees stated that they used training packages from the vendors and software suppliers particularly those which were for word processing.

This is an area where staff trainers can develop materials that would be appropriate to their own library systems. The highly repetitive jobs on the circulation desk can be learned by the

desk staff via CBT. The training will be the same for all staff, it will be presented in the same manner and will be available for any new staff who have not had the initial training.

8.2.2.6 Videos

Videos were rarely used in any of the training programmes. The American Library Association, along with other library organisations and groups, has produced a number of videos that can be used to introduce and allow for discussion on issues that will affect library staff. Commercially produced videos are available that cover a wide spectrum of topics from interviewing skills to running a meeting. At the time the data were gathered videos specifically designed for library training were not used to any extent. This situation is likely to have changed and a new survey may bring to light what videos are being used in public libraries as well as ascertaining what videos for library training do exist.

8.2.2.7 Other

Other methods of training listed by the interviewees were:

1. a planned reading programme for current awareness
2. tape slide programmes
3. Continuing education programmes of local library schools
4. own locally developed programmes for the orientation and training of clerical staff
5. residential courses for all staff at certain level
6. open learning packages

A planned reading programme or tape slide programmes rely upon the individual staff member being sufficiently motivated to take advantage of the opportunities: as a result they are not successful in themselves in providing training. Whetherly (1994) stresses that not all situations require extensive training: updating and widening knowledge about developments in the field are often best met by reading the current journals, through meetings with colleagues, or via your local library school.

Almost none of these use technology to manage the training. Technology could be used, for example, in locally developed training programmes for the orientation and training of clerical

staff using videos of staff in action. Replays and discussion with the trainer and supervisor would pin-point the strong and weak areas of performance. Further training could then be used to round out and complete the training of clerical personnel. With the extensive development of the World wide Web, tutorials for using the Internet or to develop database searching skills for example are available (*Teaching library skills* , for example, for typical programmes).

Beyond stating that such activities were occasionally used, no further amplification as to the value of such activities was forthcoming from the interviewees. While these activities have considerable value to the individual staff member they do fall into the area of staff development rather than, strictly speaking, training.

8.3 Who does the Training

8.3.1 Training on Site

On site training can be used for most types of training in all departments of the library. The most common example of on site training is that known as "sitting by Nellie": the one on one training most often given to new staff members.

The information gathered in this study concentrated on the implementation of the automated circulation system. Most of the examples given, therefore, relate to this aspect of training although they are not exclusively about training for the automated circulation system.

As the libraries in this study implemented their automated circulation systems it became apparent to the staff that there was a need to have trainers available as each branch or department went live. Problems would arise that had not been anticipated during the practice sessions and required having the trainer present to solve. The availability of a tutor for the initial start up period was invaluable. In using the system during normal open hours with the public the staff became proficient in using the system. Practice provided a good basis of knowledge about the system but only working with the system in a real situation gave the knowledge and confidence that the staff needed.

In implementing the circulation system staff in the study libraries choose to use one of the following methods: cascade system, vendor training, or the use of staff from a separate computer department who trained all staff.

8.3.1.1 Cascade Method

The method most commonly used by the libraries in this study was the cascade method. The vendor trains a core group of six to eight individuals, who in turn co-ordinate and carry out all of the training for the rest of the staff.

Those trained by the vendor should be first and foremost staff members who are chosen for their ability to train others, not because they fill a particular position on the organization chart. (Epstein 1990).

Staff selected as the core group were heads of departments and library assistants. They were chosen because of their positions and abilities to be resource people.

8.3.1.2 Vendor Trains all Staff

A second method used by the libraries in this study to implement their automated circulation system was to have the vendor train the staff. In fact, one library in the study had all staff trained by the vendor. This ensured that all staff were given exactly the same information. However, the staff reported that this was not problem free. First, no one person had been designated as the on site expert and the staff floundered until such an appointment had been made. Second, their equipment was not available when the training was given so hands on practice was not available. Thirdly, follow-up by the vendor's trainer occurred several months after the library went live: a protracted period in the minds of the local staff.

While in theory this can be an effective and efficient way to train staff it is, in the opinion of this researcher, only really suitable if staff numbers are small and if staff turnover is stable during the training period.

A further problem arises when new staff or part time staff requires training. The advantage in having the vendor train all the staff is obvious: they know the system better than anyone else. But ensuring that that kind of expertise remains within the staff is more difficult to obtain.

Vendors too are singled out as possible contenders to give more comprehensive training to those who will become the library's in-house trainers:

It is essential that vendors go beyond these initial training obligations and take more seriously, their responsibility to "train the trainers". More adequate training tools should be developed and made available to libraries attempting to establish in-house training programs. (Litchfield 1990).

Training by the vendor should also be examined very carefully. While a particular system may be used in any library there are differences in application between an academic, public, school or special library. Approaches will vary among the libraries and a vendor should be sensitive to this. In describing their automated circulation systems some interviewees did indicate that it was a good one for public libraries or that the company had more experience with academic libraries and the system reflected this bias.

8.3.1.3 Separate Computer Department Trains Staff

Some libraries have had an intensive training programme whereby a separately created department within the library co-ordinates all training for the automated circulation system. One library system (LE) had a three person department who carried out all the training for the automated circulation system. This team not only had responsibility for the initial training as branch libraries came on line but also carried out regular review and upgrading sessions with all staff as new changes were made to the system by the vendor. They also provided all the documentation that the staff would require and were available as trouble-shooters for the system.

They do not however oversee all the training within the library only that which related to the automated system. Reference departments, for example, continue to do their own training on on-line searching services.

An individual department such as this can provide resources in developing training materials, planning refresher training and ensuring that regular basic training is given to all new staff members. They can also take responsibility for ensuring that vendor upgrades are flagged and included in all training.

8.3.2 Training off Site

Libraries in this study chose off site training less frequently.

The types of training given as examples were vendor sessions on particular databases, day courses given by library associations, workshops at conferences and courses given by university and colleges on a wide range of topics from management issues to upgrading professional skills.

8.4 Management Issues

A number of management issues, in relation to the training, became evident as training methods in use were examined.

8.4.1 Training Plan

While many aspects of the training may be delegated, it is essential that one person have full responsibility for the overall plan of the training. The rank of this person must be at a senior level. The staff members chosen for this responsibility in this study were deputy directors, heads of technical services, automation librarians and heads of bibliographic departments. Although the job title changes from system to system, the function remains the same: to co-ordinate all the training required for the automated system.

Interviewees were asked if there was one designated person within the library system who had overall responsibility for training. Respondents named an individual in each system and in all cases this was a senior manager, often the Deputy Chief Librarian or the Systems Librarian, who co-ordinated training as one activity within his/her job responsibilities. No evidence of training plans, either in place or being developed, was offered by the interviewees. A training plan must be developed following analysis of the training requirements according to Whetherly (1994).

Training plans for each individual staff member should form part of their personnel record: what training has been offered and taken by the staff member and what training should be

undertaken. During the regular meeting of supervisor and staff member a discussion of training needs and a review of the training plan should take place.

A training plan co-ordinated by one person, however, was deemed to be a successful strategy during the introductory phases of the automated circulation system by the interviewees. The plan can be modified as training goes along when it is found that one strategy is more successful than another, when deadlines change, and if specifications are altered.

Creth (1986) also emphasises the need to have a training plan by stating:

... A training plan will act as a roadmap or blueprint for the trainer and trainee(s), as well as for the supervisor. (Creth 1986).

While very beneficial, a training plan in itself can also be very limiting. It can not be inclusive: there will be aspects of the job training that are not included or new situations will demand a different approach. Secondly, a training plan can become inflexible rather than a guide to be updated and modified as circumstances change. A false sense of security about training may also be created by having a training plan: continuous review is necessary. A staff member may also feel overwhelmed by the training plan and feel unable to cope with all elements described.

Creth (1986) sums up advantages and disadvantages of training plans in this manner:

These potential drawbacks of training plans are not reasons for avoiding an organized approach to training but simply remind us that any approach contains certain limitations. (Creth 1986).

Training plans have value for all staff: in relation to the automated circulation system and its introduction they can ensure a planned, consistent approach to the training.

8.4.2 Training the Trainers

When implementing an automated circulation system, the selected libraries tended to opt for the vendor's recommendation on the amount and type of training given in the initial phases of training. Once staff are familiar with the system, it is often left to the individual departments and sections to train their own staff. In looking at a second or third automated system the staff would be more critical of the training offered. One librarian felt strongly enough about this to say that this would be one of her concerns:

... We would look at the training programme itself, we are now much more aware of what the staff need to know. Their needs will now be very different. (COB, Head of Adult Circulation).

Staff chosen as the trainers are often chosen because they are the right person in the right department at the right time. There did not appear to be any library in this study that simply had assigned any available staff to be trainers: staff chosen did have an interest in training or the ability to train.

They were chosen both from the point of view of aptitude and the position they were being asked to play. The service development officer because we were asking him to do a specific job; the tech services people because they needed training anyway for all the detail that was involved whether it is system support or operation as well as the nitty gritty of the individual systems. And the line managers for very obvious reasons and because as far as circulation control is concerned we wanted the library assistants [in because they are] one of them rather than somebody coming in from on high to tell them how to do their job. (GE, Deputy County Library Arts & Museum Officer).

It is the local trainers who will receive the constant barrage of questions from the staff and from the public when there are any problems. It is this staff who needs to have comprehensive training from the vendor in the first instance and the opportunity to work with the system and develop insider strategies.

8.4.3 Transfer of Training

The other side of training and perhaps of more interest to the managers of a department or the library service as a whole is whether any transfer of training occurred. Did the employee take anything back to the work place? The transfer of training and evaluation of training are closely linked. It is pertinent to ask whether training is about skills acquisition or is it about organisational goals? What objective do senior managers have in mind when developing a training programme?

Pre training testing in addition to post training testing is the only way to be sure that any transfer of training did occur. Only one library (COB) gave any evidence that any such testing had been done. This was in relation to training for the circulation desk and concentrated on library policies rather than the specifics of how to operate the system. While limited, this testing of competencies is a starting point to determine if a transfer has taken place. Later research by Whetherly (1994) also stresses this point: there is a need to measure performance before training so as to have a yard stick to measure after the training.

There are as many reasons for the lack of transfer of training as there are training programmes. These include:

1. Participants lack confidence in their ability to successfully use the new skills on the job or feel that the values being taught are contrary to existing organizational values.
2. Managers fail to reinforce and reward new behaviour.
3. Managers fail to reach a mutual understanding with participants as to the desired outcomes.
4. Many programmes fail to break down complex skills into component parts.
5. Insufficient time allowed for classroom practice.
6. There is no follow-up to ensure long-term maintenance of behaviour. (Carver 1992).

While these barriers can be overcome it will take planning to ensure that the process of transferring the training is successful.

8.5 Reasons for Training Programmes Success or Failure

The interviewees had definite ideas on what constituted successful or unsuccessful training sessions. Their comments certainly reflect what has been clearly articulated by many authors (Carver 1992; Bramley 1991; Lipow and Carver 1992, for example). The interviewees suggest the following factors will contribute, from their point of view, to successful training:

1. that the trainer is enthusiastic and is able to generate enthusiasm in the participants for the training session;
2. positive staff attitudes: if you have a stake in the training you will want to do well;
3. hands on experience is essential;
4. the environmental factors: the right size room, a comfortable room temperature, no overriding outside noises, regular coffee breaks and so forth.

One interviewee summed up the successful factors as follows:

Successful training is closely targeted at the client group, relevant, at an appropriate level, closely structured and fun. (SE, Information Service Manager)

Getting the factors right is only one element in the training process. Once assessed and known, the factors can be improved by a number of methods.

The expectations of the participants should also be a factor taken into consideration by the trainer. The group will assume the trainer has a firm grasp on the subject at hand and can impart his/her knowledge in a meaningful way. (Pont 1991).

In brief, the right trainer who combines knowledge and enthusiasm in the right environment goes a long way to ensure that a transfer of training occurs.

8.5.1 Factors for Successful Training

The areas highlighted by the interviewees as a factor in ensuring that training is successful were:

- hands on experience
- general knowledge of broader based IT issues
- standardisation of processes
- documentation
- time factors, i.e., timing when training will occur

Other factors were mentioned briefly by the interviewees and will be discussed at the end of this section. Once again, discussion is primarily about the implementation of the automated circulation system rather than other types of training in the library.

8.5.2 Hands On Experience

The need for hands on experience in a classroom situation and in a live situation is absolutely vital to the success of the training programme. This is especially important when an automated circulation system is implemented.

In libraries where implementation of an automated system had taken place a decade or even earlier, staff often learned the system by "playing" around with it. Rudimentary instruction was given, often by the vendor's trainer who in the early days of introduction of automated systems was only a step or two ahead of those being trained. The staff could practise and explore as they learned the system. This exploration took place away from the main work area and could

be set up with specific exercises to follow. For interested staff, this was often the best method of training (Hoffmann 1989). With the computer terminal becoming the focus of the library staff member's day, hands on skills in using the system are needed more than ever (Wright 1995).

All interviewees stressed the value of hands on experience in learning a new skill.

8.5.3 Knowledge of Broader Based IT Issues

There was also a need expressed in several libraries (LE, SE, COP) for more general information on IT. Staff wanted to know what IT is available, how it impacts on the library; what systems are available in other libraries and so forth. Several of the middle and senior managers interviewed also expressed interest in the library providing some training or information sessions on general IT issues: where the various elements fit into the overall library operations. They felt that more discussion on these issues would be beneficial to all the staff and give them a broader based background in which to place the automated circulation system. For a few enthusiasts there was simply the joy of having further knowledge: bringing their interest and the work environment together.

In the library systems referred to in the previous paragraph the staff found that in the sessions with the vendors, marketing of the product not training came through very clearly. There was too much emphasis on the vendor, his system and why it is the best system available and not enough on the various modules in the system and how to use them.

8.5.4 Standardisation of Processes

Automation calls for strict policies that can be used in all situations: fines are charged without exceptions being made, loan periods are the same throughout the system and so forth. While an extensive public relations campaign can introduce and reinforce new policy decisions, the staff will need training in order to speak about these changes directly to the public.

"Knowledge pools" associated with some library departments will disappear. This will also affect individual staff members. Those staff members who previously could be considered the local experts on reserves, for example, will be part of the team and need to be knowledgeable about all the departmental responsibilities. Consequently all staff will have to have this same familiarity with the components of each job. Wright (1995) notes that there are more problems from the human dynamics when systems change than from the actual technology chosen.

The computer orders that certain tasks follow in sequence and so all staff will have to know all aspects of everyone's job.

Many staff members sense a loss of control in the automated environment. Even the most user-friendly systems require a significant amount of standardization and formalization of operations. (Hoffmann 1989).

There will also be a personal loss for the staff member who had been the local expert: motivation may suffer when the new system is introduced. However, this was not encountered in this study as will be demonstrated. Greater knowledge and responsibility will spur motivation and develop strong team spirit but will require a period of adjustment.

A paraprofessional commented on the changes that had come about within her own position stating that computerisation had brought about complexity and considerable changes for both the clerical and management staff. She commented on the standardisation process that has taken place:

The changes have been not only in the way you do things but also the way you are forced to do things. The perceptions of your job have changed: the computer has brought about a total restructuring of the staff. Prior to automation all the clericals had a specific area of responsibility. Now everybody has to be able to do everything - they have lost that responsibility and this has resulted in quite a period of adjustment. (COP, Circulation Supervisor).

This too has considerable training implications: staff will have to be prepared for changes not only in using the equipment but also in their whole approach to individual responsibilities. A team approach will certainly be necessary in the circulation area. Later research by Daniels (1995) confirms that team work with its sharing of work experiences and pooling of knowledge is happening.

Positive results are seen when there are strong motivational factors operating on either an individual or group basis. Staff morale will go up and staff will be better informed and willing to give that little extra. Daniels (1995) confirms this observation that job satisfaction increases after automation: that using a computer makes staff members look efficient and at the leading edge.

Questions about motivation in a technologically changing environment are beyond the scope of this study but could form the basis of a future work.

8.5.5 Importance of Documentation

According to Buck:

Good documentation can relieve much of the pressure of training, since staff can refer to user or operator manuals to refresh their memories and fill in the gaps in their knowledge of the system. Unfortunately, good documentation is frequently not available and must be produced by the site. (Buck 1986).

Documentation is either loved or hated. One library (RE) in the study was just in the process of implementing their first system and found the documentation from the vendor to be excellent. They were planning however to prepare brief guides for the staff from the documentation provided while the system manager would retain all of the technical volumes. Almost all other interviewees had found that the documentation provided by the vendor was almost impossible to read and digest. A total rewrite was necessary before information could be passed along to the staff.

In one library (COSC) a team of staff trainers took six months to put together a manual that their staff could then use. This occurred in parallel while they were training staff in the use of the system. They are also finding that documentation is not a static thing: once started update and revisions are constantly necessary as changes from the vendor are implemented.

One library realised quite early on that they would have to rewrite the vendor's manuals:

We tried to use the documentation supplied by Dynix but it was really too technical and in some places far too vague to be of much use. So we realized right from the onset that we would have to rewrite our training package especially to suit our environment. The documentation, the back-up documentation for training that they had was extremely general, extremely generic and really wasn't good enough. So we ended up writing a whole training programme. That took us the better part of three quarters of a year to complete. (COO, Manager, Circulation & Adult Programming).

None of the libraries in this study had undertaken any co-operative development of training materials with another library using the same automated system. Since all of the libraries in this study had done some tailoring of the vendor's materials this would seem to be an obvious area for co-operation. As well it would appear that the vendors need to produce materials that are less generic and more applicable to the public library market.

Interviewees emphasised how poorly written the manuals from the vendors were. All had anticipated that they would have to do some customising of the material for their situation: none had anticipated the amount of rewriting necessary. Writing manuals is an art and one which not all staff need to master. Cubberley (1991) very succinctly sums up the elements necessary:

- Information must be gathered,
- The necessary tools listed,
- Instructions and illustrations given,
- The material tested and evaluated before publication,
- Final revisions and then
- Publication. (Cubberley1991).

Throughout this process of writing, constant testing of the material for clarity and appropriateness is essential.

Those libraries where implementation has taken place stress this point as well:

It is usually necessary to create in-house manuals, not only for staff in the branches but also for system centre staff, in order to make sure that all necessary procedures can take place without interruption in the case of staff holidays, illness or turnover. (Dickmann 1990a).

Staff in all of the libraries surveyed in this study had prepared some sort of quick reference sheets or basic manual ranging from a few pages to somewhat more extensive pamphlets which concentrated on one procedure per page for the circulation desk staff:

A procedures' manual has been developed, a quick one for circulation to cover the basics - about 6 pages in all. (SE, Library Systems Manager)

There is a need to consider the amount of time necessary for rewriting the vendor's user manuals. All libraries in this study had virtually rewritten the vendor's manuals to bring them in line with their own practices. As discussed earlier in this chapter, many librarians do a total rewrite of the vendor's manuals for their staff.

8.5.6 Time Factors

In examining the introduction of an automated circulation system, trainers in each of the selected libraries all had different thoughts about the amount of time necessary to bring a new staff member on stream. Several of the Canadian trainers shared information on how much

basic training is now given to a new staff member. The time varied from a low of three classroom hours combined with direct hands on practice to a three day session. In the latter case all the core information was covered in one and one half days with the remainder of the time being used for exercises and practice.

One library in England has stated the amount of training necessary somewhat differently:

From central equipment arriving in September to the following April when all cataloguing and circulation functions were automated, a total of 250 person days were spent in training. This was over and above all the time spent planning for the training. (Pringle 1988).

For any library contemplating implementation of an automated system it is essential to estimate the amount of time necessary to train and then to add a sizeable contingency factor.

Continuing development of professionally qualified staff also carries significant time factors. Wright (1995) refers to Library Association recommendations that a minimum of 28 to 42 hours per year be given over to professional development activities.

8.5.7 Other Factors

The factors identified by the interviewees as contributing to unsuccessful training are:

1. no practice involved in the training
2. inappropriate trainer for the subject being covered
3. too little time

The comments from the interviewees bear out what Carver (1992) has stated as contributing to the lack of transfer of the training. One senior librarian added this comment:

Unsuccessful factors are: 1. A lack of commitment: staff can survive without training and it is very easy to say that you are too busy to train; 2. Once you have IT in place you can't skimp on training. (LE, Bibliographic Services Librarian).

The discipline demanded by IT is quite different from manual systems. Precision is demanded to a far higher standard than in non automated systems.

Senior management must be seen to support training both in principle and in practice. Without the commitment from the top of the organisation training will be relegated to a non priority status. The library management needs to acknowledge the need for training in new skills and in the process of change. If staff are expected to magically acquire the necessary skills then the message given senior management shows a greater interest in the technology not the staff (Wright 1995).

This comment is typical of one manager who does see positive support from senior management:

Senior management is highly supportive of training. They give financial support with tuition fees, up to 100%. ... Time is given for training. They are also working to develop a training plan, to formalise what is being done, developing guide-lines to cover all cases. (COO, Manager Support Services)

A middle manager who also felt the climate of support was very positive said:

Senior management is highly supportive of training in general. They have set up a lot - the training days, training courses for middle management levels - [they] actively push training. There is better promotion for training now, coming from the top down. (LE, Assistant Computer Librarian)

Another factor that was stressed as contributing to unsuccessful training was the commitment of the staff receiving the training to be at that session. The staff member must know that the training will be of benefit to her/him on the job in order to want to go for the training.

Unsuccessful when given to those who don't see a need for them to be at that training session. They don't get anything out of it, it can affect the rest of the group and be disruptive to those there. (LE, Training officer).

Commitment to training also means communicating effectively the reasons for the particular training and how the staff member will benefit from the training. Negative attitudes are extremely hard to overcome and can easily lead to an entire unit adopting the same stance. In the case of introducing information technology it is particularly important that communication is open and clear. Fears of the staff, while lessening as more IT is introduced in the workplace, are still factors to be considered. One fear cited during this study was a fear of being replaced by the machine.

Several interviewees were concerned that a library point of view be obvious in the training:

Using an outside trainer who does not have a library background or knowledge and a lack of relevance of session to the job at hand which is related to lack of library knowledge as well. It may be great for Woolworth's but not the public library. (COO, Manager Information Services).

Non profit organisations such as libraries have different goals and structure than profit making organisations and what works in one context does not always transfer successfully to another.

Many consultants asked to give presentations are not familiar with librarians as an audience. They might think only in terms of preparing a "canned presentation" or of falling back on what has been successful with audiences in the past, even though the library audience might be very different. (Ezell and McMahon 1991).

While some skills such as word processing are adaptable to a number of organisations not all skill training adapts so readily.

Knowing the audience for whom the training is intended is absolutely essential. The mix within the group can be an inhibiting factor when, for example, those with sophisticated knowledge skills about the topic are placed in an elementary session. Equally a more knowledgeable person who is bored can disrupt the entire group.

Assuming too much or too little prior knowledge on the part of the individual or the group. (COP, Deputy Chief Executive Officer).

One interviewee felt quite strongly about knowledge gained on the job making a difference in training given and received and in relating this to performance appraisals said:

But performance appraisals are really the only way to determine if training is effective and if it isn't what needs to be changed. (COL, Acquisitions Clerk).

This particular interviewee expressed in earlier questioning that long term employees really did not need to be appraised: supervisors would already be well aware of their abilities. On further reflection, however, she did conclude that appraisals could give valuable information about training and its effectiveness again highlighting the cyclical nature of the training cycle: assessment, training, and evaluation leading back to assessment.

All the library systems in the study were members of the user groups for the automated system they had chosen. These groups, however, were not used by any the interviewees to produce or

plan co-operative training materials. The groups could be used to put pressure on the vendors to produce training materials in video or CBT formats for the public library market.

8.5.8 How These Factors Can be Improved

Ezell and McMahon (1991) note some of the questions that both the organisational representative and the trainer should be asking one another in planning any session. Whether an outside trainer is engaged or whether a member of staff is delegated to lead the training session the questions raised by Ezell and McMahon are appropriate. Some discussion of the issues raised by Ezell and McMahon with applicability to this study follow.

Training is more successful when the organiser and the trainer are clear as to the aims and objectives of the training session. If the factors listed in the section above as successful ones are closely incorporated into the training process then the training session will be more successful. There are however other components that can also be included in the training process.

Choosing the right level of information for the participants is very important: information must be neither too advanced nor too elementary. In planning a session the organiser must clearly describe to the trainer the audience for which the material is intended. The trainer, too, must be clear as to what level of material he or she will be presenting. Discussion between the trainer and the organisation representatives to ascertain the levels, previous knowledge and the aims the organisation has set for the session need to be clearly explained well before the session in order to determine the most suitable candidates for the programme. Some questions the organiser might have could centre on any similar sessions that the trainer has given before, the length of time necessary to introduce the topic, how the trainer will work with an audience resistant to new ideas so that they come away enthused about the project.

The trainer will also be asking questions about the target audience at this point: why has this topic been chosen for this group, is this a mandatory session, what other training activities are planned or have been held in the past year. It is fundamental that planning be completed at this point to ensure successful sessions (Ezell and McMahon 1991).

It is important to provide for participant self assessment during the session. This will provide a gauge for the participant who can then measure what progress has been made and what areas require more instruction. A structured approach that allows self assessment at the beginning of

the programme, at the mid point and a final self assessment at the conclusion will provide not only a measure but an indication to the individual that a transfer of training is taking place. Individual achievement can be recognised by the trainer providing positive feedback throughout the session.

Thirdly follow-up is essential. Many participants will return from a training session and within a few weeks have reverted to the old work habits. If the library has only just started to use technology this is perhaps less likely to occur: however, it is a factor which supervisors should be aware. An agreement with the supervisor as to how the new skills and behaviours are to be put into place is necessary. The use of a coach or mentor to ensure that the skills are being integrated into the daily routine is also an approach that can be used to ensure that follow-up is well managed.

Fourth, computer assisted learning can be used to promote practice and development of skills without the trainer being present or as a refresher. Such programmes while initially written in a programmed way are now expanding quite considerably and can incorporate video elements and audio cues. Flexibility of learning is emphasised but the trainee must also receive encouragement and be sufficiently self motivated to continue with the course.

Simulation, which can be described as an imitation of reality (Bentley 1992) can also be a very important CBT tool in ensuring that a skill is learned and retained. Direct participation by the trainees in role plays, for example, will give a grounding in the problems that will be faced in the real world. Computer simulation is equally valuable as:

1. It represents reality so that learners are unaware that they are using a simulation
2. Learners must be able to stop the simulation in order to receive feedback
3. The simulation is robust enough to cope with accidental or deliberate misuse
4. It can be monitored and the outcomes recorded
5. It can be amended to match changes in the real world. (Bentley 1992).

In library training, databases can be created in order to simulate the workings of the automated circulation system so that staff can familiarise themselves with the system before they go live. The closer the simulation is to reality the more effective the training will be. For staff learning

the system after the initial training period, the simulation will provide a concrete and structured course.

It is worthwhile to consider a separate training area where machines can be set up. Staff will be able to schedule practice sessions on the test database away from the general library area. Most systems available now are user friendly but there are numerous very detailed routines to be learned and this can most usefully be accomplished outside the glare of the public eye.

Other factors that can improve the training session include:

more on site trainers

hands on experience,

more general information on IT itself

The information gathered in this study and discussed in this chapter relates to the introduction of an automated circulation system: the factors themselves, however, are appropriate to any training situation.

8.6 Conclusion

The principal methods used by the interviewees to train were in house training, local government training programmes and library organisation seminars and workshops. Methods of training that are not currently used extensively and which could be exploited more intensively by the interviewees are co-operative schemes with other local libraries, CBT and the use of videos particularly interactive videos.

Factors that can improve training include ensuring that hands on experience is part of the training process, ensuring that documentation is accurate and appropriate for the situation, and that a written training plan is place. A further area where interviewees wanted to see more emphasis throughout the training process was in relation to knowledge and information on the wider spectrum of IT issues. This is an area where there are training implications: general sessions about the system chosen need to be held, sessions about how these systems fit into what the library already has, what the marketplace has and what the library might offer the

public are all necessary. Demonstrations and visits to libraries that already have gone through the implementation phase are also ways of increasing staff awareness of IT. Vendor demonstrations are also a valuable source of information that should not be overlooked.

Team work becomes more essential in the automated library. No longer are individual staff members solely responsible for a particular area or procedure: all staff in a department have to know how to carry out all the procedures. Training methods that emphasise team building and working will be necessary.

Transfer of training is a complex process and a more detailed analysis, by means of a separate study, will be necessary to determine if with more emphasis on training by organisations, there is also a corresponding emphasis to know whether that training is effective. What has been learned and brought back to the workplace by the employee? How will the training be integrated into the daily routine?

Chapter 9

The Evaluation of Training

The notion of evaluation that we grew up with is that we are going to make a judgement: is it good or is it bad? Visions of St. Peter come to mind. But if we look at evaluation not as making some final judgement on goodness or badness but as providing information that helps us do better, evaluation becomes a different kind of tool. (Zweizig 1987).

9.1 Introduction

Evaluation completes the training cycle and a review of the entire training process is essential in determining whether the goals of the training have been met.

The evaluation of training is not easy, as what is being sought, as well as justification for the expenditure of time and money, is a means of measuring the effectiveness of the training that has taken place. (Webb 1993).

As the final element in the training cycle, evaluation should not be considered as a separate component. Ideally should be integrated into all aspects of the training cycle from planning the event to actually promoting and giving the event.

The process and purpose of evaluating job training are similar to other evaluative responsibilities of a supervisor: to gather and analyze information in order to justify past actions, and to project the future use of departmental resources - staff and materials. (Creth 1986).

When library management staff fail to evaluate training they have failed in their responsibilities as an employer. Different training situations will demand differing levels of evaluation. A full time manager will have his/her training evaluated in greater depth, for example, than a part time student assistant. Those responsible for training will make these decisions based on the nature of the positions and the training context.

9.2 Defining evaluation

At the most fundamental level, evaluation determines whether the objectives set for the training were achieved. Evaluation cannot, however, be thought of as an activity separate from the determination of training needs: the two feed into one another. The training cycle demonstrates that evaluation leads back to the identification of training needs, or if these are still appropriate needs, leads directly into the setting of further objectives for the training.

Evaluation must be an on-going process if training product and performance are to be refined and improved. (Pont 1991)

Pont (1991) emphasises the cyclical relationship and describes evaluation as being a strategic stage of the training cycle:

It forms an integral part of the systematic approach, the quality control part, and therefore should not - as it often is - be neglected. (Pont 1991).

Quality control is an essential part of the training process and without that control being present all planning and other activities associated with training are wasted. One senior manager who concurs with Pont's view underlines his statement by saying:

Training is an area that people talk about but don't do much about. (LE, Deputy County Librarian).

Four general purposes for which evaluation can be used are as follows:

1. To provide feedback on how well staff is doing.
2. To add to the body of knowledge on training principles and practice that could have a much wider application than feedback evaluation.
3. To measure the effectiveness of the transfer of learning back to the work-place.
4. To relate [the] training policy and practice to organizational goals. (Pont 1991).

Further purposes for evaluation have been expressed as follows:

1. To furnish accurate information to assist further planning, to improve decision-making, and to document achievements

2. To identify program strengths and weaknesses and the reasons for specific successes and failures
3. To assure more consistent quality in learning activities and efforts
4. To reinforce learning and develop an awareness of growth and change. (Creth 1986).

A number of methods of evaluation exist. Information on evaluation is available but material that relates specifically to libraries is sparse. Authors such as Lipow (1989), Epple et al. (1992) and Creth (1986) provide some useful guide-lines within the library context while Bramley (1991) and Pont (1991) provide a training perspective within the wider business management environment.

9.2.1 Assessment of training needs *vis-à-vis* evaluation

Assessment of training needs was discussed in full detail in Chapter Six so will only be touched upon here as part of the evaluation process. Before any training programme is developed, an assessment of needs is essential. Without knowing what skills and attitudes are necessary to carry out a particular job the training cycle will be incomplete.

The informal methods of assessment seem to be used both to start the process of identifying needs and to check if those needs have been met through the training. Simply asking should provoke a response about what is wrong or where the training went wrong.

Other methods of assessment may include an examination of performance evaluations and long range planning documents for the library service. A staff development committee charged to look at and make recommendations about training can also be used as part of the process to assess needs and to determine if those needs have been fulfilled. Somewhat more formal but also used by most libraries in this study are questionnaires, interviews with individuals and with groups. Using any or all of these methods should ensure that information about training needs is available: these same methods can be employed to start the evaluation process.

The whole process is circular with the assessment leading into the training itself, then the evaluation which in turn leads to new directions for the training.

Bramley (1991) details several cyclic programmes for the training process that emphasise training for either the individual or for organisational effectiveness.

One librarian had this to say:

We have a cyclical approach to training - the needs are identified, the training is given, there is assessment and evaluation which in turn leads back to the identification of training needs. (SE, Director of Arts and Libraries).

This does not however determine what methods of evaluation are most appropriate for the individual library.

9.3 Documentation on Evaluation

Any documentation that would demonstrate that either a policy had been developed on training or that a training plan for the library system existed was requested during initial correspondence with the sample libraries. No documentation was produced. Several of the senior managers interviewed talked about the development of training plans and policies, but no written evidence of such plans and policies was offered.

It is essential that such documents exist: planning in both the short and long terms depends on having clearly stated policies. This is a further area where research could profitably be carried out.

Evaluation should form part of these documents: as stated earlier evaluation is the quality control aspect of training. Whetherly (1995) includes examples of policy documents from academic and public libraries which demonstrate what might be included in an overall training policy as well as within a specific training plan.

9.4 Methods of Evaluation

Methods of evaluation fall into three basic categories:

1. Self evaluation

The trainer and the trainee can both engage in self evaluation. The trainer can both analyse his/her own performance and ask for an analysis from a colleague. Further critiques can be obtained from the trainees.

Trainees will also be assessing their own performance during the session. The trainer will need to provide opportunities for measuring potential during the session and at the conclusion of the programme.

2. Learner evaluation

Learner evaluation follows on from the self evaluation and a post training session questionnaire is often used to obtain this information. The questionnaire is also designed to provide the programme designer with information to integrate into and reactivate the training cycle.

3. Testing

Testing can be done in a number of ways but the primary aim is to obtain a measurement of whether the trainees learnt what was intended.

There is some overlap among the three methods but broadly speaking each can be viewed as a discrete dimension of the evaluation process. Evaluation in the libraries in this study while extremely fragmentary did break down into two distinct sections: one, the impact on the individual and secondly the impact on the organisation.

Evaluation of the training programme itself and its delivery, was only briefly mentioned. For instance, one respondent said:

If you attend a workshop it is expected that you will prepare a report for circulation to the rest of the staff and that you will give an assessment of the course as well, its value and the competence of the trainer. (COB, Chief Librarian).

Comments on the value of the course and the competence of the trainer were typical when responding to questions of evaluation of the training itself. One library, however, is trying to provide some more meaningful data in relation to training and its evaluation:

[We are running a] cross training programme. You exchange a job, a straight exchange for two weeks. This is the first time we have put a real evaluation system in place: in six months time we will test the people who participated on what they have learned, what they have retained, etc. (COL, Co-ordinator Central Library Services)

In theory this should produce a more rounded library staff member, more aware of how the various functions and departments of the library work together. What actually happens in practice would make a very fascinating study.

9.5 Evaluating training in organisations

Masterton (1984) states the basic questions for evaluation as follows:

What are people expected to accomplish? How well did people do? (Masterton 1984).

Implicit in this is the notion that evaluation is not an isolated activity but rather an endeavour that feeds into the initial assessment of training needs thus becoming part of a cyclical practice. The level at which the training programme is aimed defines the type of evaluation that is done. The skills to word process, for example, are quite different from the skills necessary to prepare an online search although the keyboarding skills will be similar in both cases.

Expanding on her basic questions, Masterton goes on to comment:

Variations on the first question help to anticipate the conditions and contingencies for which training and assessment options should be arranged. Variations on the second question feed into instructional decisions on what to do next ... Both questions are basic to assessment ... (Masterton 1984).

If evaluation is to help us do better as Zweizig (1987) suggests then it should be a formal process that is carried out for all training activities.

The training process provides feedbacks that can be used as part of the evaluation process.

Briefly stated they are:

1. Learning

The acquisition of knowledge and skills which in turn can be evaluated by tests, exercises, or subjectively.

2. Attitudes

Has a change in attitude taken place as a result of the training? (Note: changes in attitude can be both positive and negative: those involved in the training process need to be aware of both results.)

3. Personal

Personal benefits can be shown in ways such as increased self confidence and self esteem.

4. Performance

This is the area where the investment in training is obvious. The real evaluation takes place in the work place. (Bentley 1990).

Most literature (Bender 1994; Bergen 1988; Jones 1985; Lipow 1989b) concentrates on the outcomes of the training: did any learning actually occur? However it is possible for evaluation to examine the more subtle aspects of learning and for this information to then be fed into the training cycle.

Some form of evaluation is necessary whenever any training is done. Evaluation can effectively examine several differing aspects and levels of training: what were the goals of the training, were the goals met, did a transfer of training take place, were the methods used to accomplish the training the best ones for this particular session, are there other areas where training is now necessary because of this training session. These and other questions will need to be answered during and following each training activity.

Without asking these rudimentary questions little real evaluation will take place.

9.6 Evaluating training in libraries

Formal methods of evaluation, each with advantages and disadvantages, are:

- Interviews
- Questionnaires
- Tests
- Observation
- Examination of organisational records

The first two items listed, interviews and questionnaires, were used most frequently in the libraries in this study. Interviews offer personal contact, great flexibility and permit follow-up

questions but are time consuming, are high cost, allow for only a small sample and the results are difficult to quantify. Questionnaires are low cost, the data generated can be easily summarised and reported, and a large sample can be taken. On the other hand, they are inflexible, there is often a low response rate and follow-up questions are discouraged.

Tests and the examination of organisational records have certain advantages but in the library context are not necessarily the best instruments to assess the training for either the individual or the organisation. Tests can certainly be designed to measure whether a piece of equipment is operated correctly but in areas where activities are not so clear cut, for example in original cataloguing or in the reference interview, tests are a much more subjective measure.

Organisational records tend not to focus on skills necessary for a particular job but rather on the policies set for a department or library.

Observation was used in many of the libraries in this study when training a staff member in, for example, the use of the automated circulation system. A period of detailed observation followed the instructions and practice in the usage of the system. It was referred to by the interviewees as "shadowing" or "sitting by Nellie". Only one library (COB) in this study went further and included a test following the period of instruction and observation. In this case it was used during the orientation to the automated circulation system and was used to test the staff members knowledge about the policies of the library not about what button or key to push when.

9.6.1 Example: Glasgow University Library

While no written materials relating to the policies on training or guide-lines for training and evaluation were provided, some libraries outside this study have been wrestling with the concept of how to integrate evaluation into their routine training cycle. One academic library that has tried to put theory into practice is Glasgow University Library (Richard 1989).

Glasgow University Library has implemented an evaluation process to assess their training activities. It has established a working party that draws members from various departments and grades of staff. Richard (1989) describes the criteria used by the working party in examining the internal training undertaken by the library. While they would also like to evaluate outside training programmes this has not yet been attempted beyond a very simple questionnaire to identify the most successful courses for future use. Questionnaires are used to obtain the preliminary

information. Trainees are asked to describe their reactions in several ways: opinion on content, on presentation, discussion and ability of presenter.

Further coverage is requested in asking opinions on the best and worse aspects of the session and whether the session will assist in helping the staff member do his/her job better. The accumulation of this material is to be used in several ways. It can be added to the employee's service record which then is used to compile a personal profile and training plan. Information can be abstracted for the presenter so that improvements and changes can be made for future courses.

9.7 Evaluation - Research results

As indicated earlier, in the chapter on methodology, interviewees sometimes mistakenly responded to questions about assessing training needs by talking about the evaluation of the training. Pont also stresses the misunderstanding in terminology:

The term 'evaluation' is widely used and definitions and perceptions vary. It sometimes overlaps with such terms as 'validation' and 'assessment', which can confuse the situation. (Pont 1991).

Interviewees were asked what methods were used to evaluate training within their library system, what follow-up to initial training is undertaken and what factors lead to training being successful or unsuccessful. Although staff in the sample libraries had definite ideas on what factors contributed to successful and unsuccessful training sessions, they had very little to say about evaluation itself or the methods those libraries used to evaluate their training programmes.

While interviewees did respond to the question,

What methods are used to evaluate training in the library system?

The impression gained was that they were often at a loss as how to respond. Very few were aware of specific approaches to evaluation and it seemed that their responses were somewhat theoretical. It became quite clear, as the interviewees spoke, that the only formal evaluation of which most were aware occurred during the initial probationary period for all new staff members. No real evaluation took place of training programmes. While recognising the value of analysing

the data produced by a training session noting the details of changes made, it was rare that any significant changes occurred as the result of such evaluation. Comments tended to be either very brief or theoretical. One senior manager (COM) said that programmes had been altered because the focus was wrong: it did not cover what the staff attending saw as the primary day to day issues or problems. A second comment (COSC) related to upgrades of equipment and software packages already in use and that training was altered as new material became available. A third manager commented that:

Nothing really altered but training does evolve. As we do a lot on a one to one basis, training is not cut and dried - it is adapted to each individual. (COP, Deputy Chief Executive).

A fourth library (COL) had tried to involve staff in the actual design of training programmes, for example, in customer care training.

There was no significant difference in responses from the interviewees in England and in Canada. Little concentrated effort appears to be taken in either country to carry out evaluation.

It would appear that in this particular study the methods used to evaluate training are the same whether applied to IT training or to other types of training. This could be an area for another study along with questions relating to the use of IT to teach IT.

The methods of evaluation used by the libraries in this study are:

- informal evaluation methods only
- questionnaires
- probationary period assessments
- observation
- formal report made by the individual
- performance appraisal
- staff competencies

9.7.1 Informal evaluation methods

Having no formal method of evaluation weakens any training programme that is undertaken. While both trainees and trainer may make some useful comments following the session, if these

are not recorded they will be of little benefit to the organisation. With the amount of money being spent on training and related materials it is essential that some evaluation is done.

On things like customer care no formal assessment has been done other than for the county librarian to keep an eye on the numbers of complaints and compliments that are given to the staff. (LE, Training Officer).

This comment could be applied to either the individual or the organisation. The individual is being assessed by a member of the public who finds the performance of that staff member to be either very good or very bad. A letter to the county librarian provides some feedback on the training that that person has had. For example, Whetherly (1995) sees this type of comment at the organisational level as a means to identify particular training needs: in this case interpersonal skills training. It can also be viewed as a further comment on the organisation itself and the standards that it promotes.

In a situation like this is any real evaluation taking place? In this case the comments made are sufficient to alert management staff that there is a training need. But often these comments can be too broad or too particular to one situation to be usefully extrapolated to include the rest of the staff within a particular department.

When job training has been treated informally, the evaluation of this function has also been informal or non existent. (Creth 1986).

While comments from the public are an indication of whether or not training has been consistently carried out, it is not an effective measure of the success of the training programme.

Frequently where there are no formal methods of evaluation the interviewees would say that it is monitored by results, for example:

By results. If they are still doing it wrong, then the training wasn't any good. No formal system for in house training. For outside courses, there is a form to fill in... (COP, Deputy Chief Executive Officer)

This is interesting as the criterion for an evaluation seems to be related to whether or not it has an associated cost. Another library requires formal documentation for some outside courses:

If a person has taken an outside course for which they request payment we must have an indication that they have taken the course - a transcript of marks, for example. (COO, Manager Support Services).

9.7.2 Questionnaires

The results from a questionnaire can be very misleading. There are numerous reasons for this. A questionnaire may be vague and unfocused and not designed for the insertion of follow-up questions. Questionnaires can be inflexible and questions can be easily misinterpreted. Finally, it is easy for the participants to skip questions that they feel are not appropriate.

Questionnaires. That would be the most frequent method. Asking the users to evaluate, trainees to evaluate the training. Rarely are the supervisors asked to evaluate the trainee - has the person learned what they were supposed to learn. Rarely is there any follow-up some time period later, six months or a year later, to find out if those skills have been maintained. Usually interviewing isn't done, there's just the questionnaire at the end of the day or the end of the week or the end of a particular session. (COM, Director Central Library).

This senior manager finds the questionnaire lacking in several essential areas: was the training effective? Did learning take place? Information from the questionnaire must be available to the supervisors of trainees as well as to the trainer so that further training, if necessary, can be planned or action to incorporate the training into the day to day routine is ensured. Another senior manager speaks of questionnaires in this way:

We always put out a questionnaire, an evaluation questionnaire at the end of our courses and feed that back into the system. That is obviously a personal evaluation by the participant. As far as evaluating whether the training itself has a long term effectiveness, there is no regular evaluation. (GE, Deputy County Library Arts & Museum Officer).

There is a questioning, as well, by this librarian of whether any learning has taken place.

Questionnaires also give rise to what is often referred to as the halo effect: positive answers are given which may not be the real response the trainee would have given after reflection on the session. Some people refer to this as the "smiley chart":

For outside courses there is a form to fill out - the halo chart syndrome. (COP, Deputy Chief Executive Officer).

Often there is little feedback. If staff are not required to report on the training session or if there is no attempt to ensure that the training will be put into practice on the job, it is doubtful whether the training will be successful or realise its full potential.

In some cases, the comments are not so much on the content of the course as on the conditions: the trainer's perceived abilities, the room temperature, the handouts and so forth. These are certainly valid considerations that are useful in determining if the physical setting contributed to whether the session could be rated as successful: noisy building work taking place next door will certainly hinder discussion groups. While this is valuable information, it does not address the primary questions of the training: what was the goal of the training session and was it met.

9.7.3 Probationary period assessments

The interviewees often spoke of evaluation only in terms of the initial probationary period for a new staff member. This is the one time when a very close eye is kept on the development of an individual.

Following the probationary period all of the participating libraries indicated that there was some assessment of the employees performance. This consisted of a check-list completed by the supervisor and the new staff member or an interview with the new staff member. It would appear that this, for many libraries, is the last formal "evaluation" that takes place.

All we do have is a check-list of things, really the basic things that you must be sure that people can show and which have been ticked off and initialled. And that basically is how they ensure that the bare essentials have been passed on. (RE, Bibliographic Services Librarian).

Evaluation of training tends to be somewhat skimmed over: there is now a built in review as part of the induction training where from the individual's point of view you see your supervisor at regular intervals. (LE, Bibliographic Services Librarian).

These two comments are typical of those made by other interviewees: surely a sad reflection on the state of evaluation in place in our libraries.

9.7.4 Observation

Observing whether a skill has been learned will be patently obvious on the job and the supervisor will be able to either reinforce the training or suggest further training.

If it is a technical skill - how to operate a piece of equipment - it is strictly observation. (LE, Training Officer)

Putting together all the pieces and being able to work under pressure also forms part of the observation process:

[Evaluation is] straight, practical: can the person perform? Usually under the gun. (COL, Circulation supervisor)

Observation was the most often reported method of evaluation when assessing clerical level positions such as circulation desk clerks.

9.7.5 Formal report made by the individual

Reports, both formally written or informally presented reports, also form part of the evaluation process. As this interviewee states it is not always a formal requirement:

You may be required to write up reports of conferences or seminars attended. It is encouraged but is not mandatory. (COO, Manager Circulation and Adult Programming).

In one library however the use of a report is being combined with a discussion between the individuals concerned to establish goals and appropriate follow-up.

[We] are trying to emphasise that the managers and the trainees discuss what the training will accomplish and the goals they both have of the training. (SE, Director of Arts and Libraries).

Full communication between all parties is essential in ensuring that the evaluation process is productive.

9.7.6 Performance appraisal

Staff appraisal systems, as discussed in an earlier chapter, are not in place in all libraries in this study.

The follow-up really comes on through the staff appraisal system, by identifying what further training needs there are. You are back in the circle again. (GE, Deputy County Library Arts & Museum Officer).

Although many of the interviewees asserted that such schemes provide valuable information, it is still an area where senior management has yet to take action.

Staff appraisal is used to assess training needs. The needs emerge from the process but it currently doesn't do as much as it might to explore staff training needs. (COM, Director Technical Services Division)

One library (LE) uses job consultation, a form of performance appraisal as part of their assessment of training needs process. As this is a voluntary system and no written record is kept of the discussion, the information about training can be easily lost to the detriment of the organisation and the individual.

9.7.7 Staff Competencies

Very few libraries in this study tested staff competencies in any way after training for the automated system. In some cases, it was felt by the interviewees that this would be degrading for the staff concerned. Simple observation of the person at work should provide enough information about the person's competency for the supervisor. There were staff however who felt that if the testing could be done in a non threatening way it would be a good idea. In every job there are situations that occur only infrequently: the methods and procedures to use in such instances are not always clear or known by all staff.

One library system that has chosen to test competencies uses a combination of techniques. These include supervised desk hours together with a clearly laid out plan of how many hours will be involved as well as a written quiz:

The quiz does cover policies and procedures rather than what button to push to do what. (COB, Head of Circulation).

It is this emphasis on the policies and procedures that is stressed rather than the simple mechanics of operation. Changing patterns of use have resulted in many libraries changing their policies on the length of loan period, restrictions on numbers of items loaned, age of the borrower and so forth as the circulation system has been automated.

A check-list is often used as well - something that is probably a carry over from a manual circulation system where a stepped introduction to the system is often used.

In the opinion of this researcher it is essential that competencies be tested and that all staff are aware of what level of service is required. The simple mechanics are easy enough to grasp: it is the melding of policy and procedure that can be much more difficult. The training group

responsible for training in the use of the automated circulation system should also plan for and include testing for competency.

9.8 Recommendations

The level of complacency about evaluation of training is quite unbelievable. One interviewee questioned concerning any follow up to initial training said this:

... very little done here - in most cases the training is done and it is left to the individual to come back if they are having any problems or questions. (COP, Circulation Supervisor).

Having invested a considerable sum in terms of personnel, time and other resources in the training process, it is unthinkable that any administration would be so remiss about evaluation.

Once evaluation has taken place what happens to the material thus acquired? Is it simply collected and forgotten? Does any further use of the material occur?

A number of possibilities exist for usage of the materials:

1. Material on the training received by a particular staff member can be added to his/her personnel file and be used to develop a personalised training plan

In retaining material to add to the staff member's personnel file, a complete picture of the training opportunities offered and taken needs to be recorded. An indication of other training opportunities that could be beneficial for that particular individual should be included as well.. Overall staff development policies can then be identified. The so-called 'fast track' trainees can also be easily identified through the personnel files and the training modified as appropriate to the career path of the individual.

Personal profiles such as that developed by the Library Association in 1992 are useful to the individual in planning not only their entire career strategy but also what training will be necessary to get there. For the organisation, these profiles can also be used to develop a career plan within the organisation for an individual.

2. Post-course analysis for both internally and externally managed courses

Future training needs can also be identified from the evaluations. The comments from the participants can highlight the need for training in a related area or at a different level from that given. As well information can be derived which will indicate whether an outside session or consultant will be used again.

Analysis following a course is essential in order to plan for any future courses. This is to ensure that money spent on outside courses is being used well, and more importantly to ensure that the staff is well trained.

3. Information for the trainer on whether the material covered was aimed at the right level and audience

For the trainer, the evaluation from the session will allow him/her to plan future sessions making additions and deletions as necessary to the base material.

4. Specification of training objectives

Before any training activity is undertaken the objectives for that training must be known and specified. Evaluation can then be based on whether the objectives were met.

5. Implementation of an effective and documented evaluation strategy

As stated earlier none of the libraries in this study had written documents that referred to a policy on training. These should exist and should also include material on the evaluation process. As Bramley (1996) states:

Staff development is only one organisational priority among many and must compete for scarce resources; it needs to be able to demonstrate its value in order to survive and prosper. (Bramley 1996).

Without any policy that clearly indicates how the evaluation process will fit into the training cycle senior managers will not be willing to invest sufficient money to have a really effective training system for the entire library system.

6. Staff appraisal system must monitor all training undertaken by the individual and assess their satisfaction with it

Appraisal systems are being introduced into some of the libraries in this study and acknowledgement of training needs and benefits will form part of this appraisal process.

9.9 Conclusions

Because the training process is cyclic (needs are identified, sessions are planned and implemented, evaluation takes place which leads into the cycle again) all elements must be in place. Evaluation is a key component of the process and must not be eliminated or skimped.

The creation of staff profiles will be a priority (appraisal schemes will be of assistance in this respect) in forming a view of the requirements. (MacDougall 1990).

Evaluation serves to determine if skills have been learned and more importantly retained. Evaluation also pin-points other areas where training will be necessary and starts the process again. Evaluation is an essential element of the training cycle and an area where more work is necessary. Once objectives have been established for training, the training itself completed, it is necessary to carry out a thorough evaluation to determine if the objectives were met and if not why not.

Evaluation can determine if the delivery method was the correct one for the content of the session and the participants.

Further areas of research that have been highlighted after looking at what evaluation of training is undertaken in the sample libraries are:

The evaluation of IT training

The use of IT to teach IT skills and the evaluation for this

The skills based approach to assessing training needs and what methods of evaluation are most effective in establishing that the skills have transferred

Examination and analysis of written policy documents on training within a particular library system

Evaluation is an essential part of the training process: for the libraries in the study it has more often been in the realms of theory not of practice.

Chapter 10

Conclusions

10.1 Introduction

In this chapter, the conclusions determined by the study will be discussed along with recommendations for further research. As has been illustrated in this thesis, information technology has considerable impact on the training offered in public libraries in both Canada and England: this impact will continue to be evident for some time to come.

10.2 Conclusions

The definition of training that has been adopted throughout this study is that as given by Bramley which can be briefly summarised as:

Training is a systematic process; to change skills, concepts and attitudes; and to improve performance now and in the future. (Bramley 1991).

Respondents in this study exemplified the systematic process as described by Bramley where training leads to an improvement in skill levels while promoting a change in work attitudes and improving current job performance. There is an underlying belief that the skills which are learned will provide an underpinning for future jobs within the organization.

As the study proceeded it became evident that the similarities between the libraries in England and Canada were greater than originally suspected and very few differences were observed or reported. Secondly, interviewees' observations not only reflected their own work groups but were also strongly personal and individual comments: the emphasis while still remaining on the work group did shift to a more singular approach.

10.2.1 Staffing/organization changes

It has been found that as a result of IT new positions are often created, particularly that of an automation librarian / specialist or a comprehensive unit. One library in the study (LE) now has a team of three who do all the training for GEAC in the system. Several libraries created a particular position (COM, COSC, SE for example) following automation. Yet other libraries have chosen to link computer operations with an existing position and to bring in more support staff (GE, COP).

Aberdeen City Library found that it was essential to have a systems librarian not only for training but also for the technical side of the automation process and knowledge of the field in general:

Thus the development of staff training, especially in communication with staff, was seen as an integral part of automation development with the crucial factor being the establishment and training of a systems librarian who was well versed not only in the library applications side of automation but also in the technical aspects of system design and operation. Only by having such a person could staff training adequately meet its aims. (Herring 1986).

Staff interviewed during the study stated that not only are new jobs created but some jobs also disappear. As the routine labour intensive activities are taken over by the machine, the staff are redeployed in other jobs that may be more intellectually demanding:

Not only do jobs not disappear they are created, expanded, redeployed, reclassified and redirected but there are often additional jobs. It is a way to serve the public better and reduce the manual labour intensive activities. (COSC, Project Co-ordinator, Technical Services and Acquisitions).

Another librarian commented that while the responsibilities within her job had not really changed how that job is accomplished had:

The responsibilities are the same - the nature of how it is fulfilled has changed. The IT developments have created more procedural and organisational changes and there are increased staff management aspects. (COSC, Head of Reference).

It is rare that anyone claims to have more time as computerisation has taken over routine jobs. The slack, however, is filled by new assignments. A key point made both by the interviewees and throughout the literature (Buck 1986; Dickmann 1990a) was that automation did not reduce staffing levels. Responsibilities within a job did change and often some redeployment within departments did occur. Training will assist with staff redeployment as well as with expanded and

changed job responsibilities. Overall staff were not saved as a direct result of automation.

Dickmann (1990a) makes this point:

It is essential to realize that automation will not save staff. It will improve efficiency in the sense of speed and accuracy of operation, but if anything, the need for staff will increase, at least during the implementation process. (Dickmann 1990a).

Not only will there be changes to existing jobs but the power balance can also shift within a department or within the library system as a whole. This study found that decision making shifts to the lowest level as Dakshinamurti determined:

Hierarchical lines are blurring and middle managers are expected to be needed much less, as more and more often computers will enforce standards and supervision. Decision making will be at the lowest possible action level. (Dakshinamurti 1985).

Earlier research by Bulaong (1982) had highlighted this point. There is a need for more technical training of supervisory staff, so that they are able to understand the processes of automation as well as the mechanics of how to operate the machines:

Automation shifts power which is a concern of middle and higher level management, and it demands a new understanding of technical possibilities, if not actual expertise in areas previously alien to the manager. (Bulaong 1982).

The interviews conducted for the study demonstrated that this is still the case today.

Several library systems in this study had implemented changes to the reporting structures in place. Two such systems were CNSD and COO.

In the former (CNSD) a full examination of the organisation was undertaken before the automated system was put in. As a result, several departments were totally restructured and in fact disappeared or were swallowed up in a larger more generic department. In this case, it was the circulation department that merged into a department now called "support services" with a paraprofessional heading the circulation function. The Adult Lending Service in this particular library system deals strictly with the collection: what is in it, catalogue inquiry and so forth not with the circulation function. Support Services also includes technical services and systems. The Head of Support Services reports directly to the Chief Librarian.

In the latter (COO) the Deputy Director described a radically changed reporting structure after the introduction of their automated system: decision making was delegated downwards and there

was an opportunity to examine where lines of reporting were duplicated and overlapped. In addition they were able to make redundant many of their committees. As power shifts in the organisation, and as the organisation becomes flatter, reporting structures are bound to change: communication networks within the organisation will, in response, also change radically.

Buck (1986) determined that organisational changes had been made as a result of automation.

Wright (1995), also reports a flattening of organisational structure along with changes in communication patterns and the decision making processes. New positions as reported by Buck (1986) in his survey of 34 GEAC libraries were created resulting in two to nine staff additions to the roster. Job titles included machine operators and a system manager.

It is then evident that changes have been made to organisational structures after automation. Trends found in this study substantiate those which are described and documented in the literature.

10.2.2 Need for more highly educated staff

As decision making is shifted downward, middle managers and paraprofessionals find that they have been relieved of many of the routine tasks of librarianship:

The computer takes on the routine jobs, the repetitive jobs like writing out overdue notices. Clerical staff are now given other things to do. Professional staff can spend more time with the stock management and selection, producing bibliographies and so forth. (LE, Assistant Librarian Computer Services Department).

Allied to this is the rising expectation of the public as they realise that the system can provide them with more information as well. Many paraprofessionals are now working more directly with the public handling their inquiries for information within the collections as well as with what is contained within the automated circulation system. Over ten years ago Bulaong (1982) had stated that technological change causes the downward transfer of complex functions with the consequent transfer of planning functions upward. The focus of Chapter Five was the impact of information technology on both the individual and the organisation: paraprofessionals are being given more responsibility as the professional staff increasingly become managers within library departments.

Supervisory tasks such as overseeing and scheduling staff for the circulation desks are being assigned to paraprofessional staff and thereby increase the range the job opportunities for staff at this level. Johnson (1991) also observed this in her study of academic libraries:

Staff members have been reclassified into higher level positions (with higher salaries) when automation has had a significant impact on their jobs and their responsibilities have been increased. One library observed that most entry level clerical jobs have disappeared as employees move into more skill-dependent positions. (Johnson 1991).

Interviewees certainly confirm this: that minimum qualifications are no longer sufficient even for entry level positions. Typing skills are being replaced by keyboarding skills. The ability to sift through and sort out a vast quantity of material on the screen and interpret the information is required of all staff: operations are more sophisticated than in manual systems.

While not unique in adjusting to the changes that technology has forced on many organisations, libraries must be conscious of the increased need for training for staff at all levels. Chapter Seven identified some of these needs while Chapter Eight examined some of the specific methods of training that would incorporate technology to do the training.

Fears about what the changes may be are receding but are often still apparent and as Collier observes:

Impending change has great potential for the creation of uncertainty and stress among staff. ... The challenge is heightened by the fact that change brought about by or through IT is often rapid, even sudden, and may introduce emotive issues such as de-skilling. (Collier 1991).

The deskilling and reskilling of staff becomes more apparent in this environment. If as has been suggested (Peters 1982) that the staff, individually and collectively, are the organisation's most valuable resources, it then makes sense to invest and invest heavily in their growth and development.

As changes are made in the organisational structure of the library it becomes obvious that a more highly skilled workforce at all levels is needed. More complex operations are being introduced and used: as more information is available to all staff, the old "need to know" principle has to change. Intellectual skills are stressed as Bulaong points out:

Skills needed in the automated environment shift from just manual dexterity to the intellectual ability to absorb, organize and interpret information, as well as greater

capacity for concentrated attention and process conceptualization, because of closer inter-relationships with other jobs. (Bulaong 1982).

The team approach is supplanting individual responsibilities in library departments. Intellectual skills are necessary throughout the organisation to process, comprehend, explain and organise the information that floods into the library.

10.2.3 Blurring of job boundaries

There were marked changes in the libraries in this survey as the organisational changes noted in Chapter Five and summarised in section 10.2.1 were implemented.

The role of middle managers was highlighted as the transition from a manual to an automated system was made. They now delegate some of the more clerical tasks to the paraprofessional and clerical staff. They are thus freer to take on more professionally challenging tasks as this librarian acknowledges:

I see a movement away from the clerical stuff and more into broader intellectually challenging tasks. (COO, Manager Circulation and Adult Programming).

The shift of middle managers towards more managerial tasks, has mirrored a move to using more paraprofessional staff on information desks and reference points. As one respondent explained:

The introduction of the computer into the library service definitely has a radical effect on the ways in which staff go about their daily routines. (LE, Assistant Librarian Computer Services Department)

Job boundaries are blurring as is the entire organisational structure: a flatter organisation, with more information available to all staff, is emerging. During the time of change a more organic structure is seen:

The changing nature of work and the decentralisation of power has lead to organisations that are less hierarchical. The increased interdependence of the various units requires a greater emphasis on collaboration and a need for more and better communication structures. (Jurow 1990).

As automation causes more changes in the way in which work is approached in libraries there will continue to be changes to the organisational structure with greater collaboration between all levels of staff.

10.2.4 Advantages of IT

The advantages of IT as discussed in Chapter Four do appear to outweigh the disadvantages. Automation has revolutionised the approach taken by librarians which in turn has offered the public more in depth services and access to a richer variety of information tools and databases. As this librarian said:

We are for the first time offering our readers a service which is first class: which is world wide bibliographic information, if you like, for those who want it but also specifically good planned acquisition and good strong management for those who are browsing the shelf face of the library. (LE, Bibliographic Services Librarian).

Three definite advantages of using information technology cited by the interviewees, speed, accuracy and the ability to update instantly, are seen to override the disadvantages.

The disadvantages reported by the interviewees, downtime, cost and the ever increasing need to upgrade and replace equipment, while serious are more than balanced by the advantages. Interviewees were keen to state that they would not return to a non automated system.

10.3 Further areas for Research

There were a number of areas where it became apparent that further research could be undertaken. These areas include:

1. the cost of training
2. the need for well written documentation from both the vendors of systems and manuals developed in house to support to in house training programmes,
3. the evaluation of training,
4. the transfer of training.

Each of these research areas will be briefly discussed.

10.3.1 Cost of Training

Each library in this study had a budget category (see for example the ULC Study, 1993) and budgeted figure for training: the budgets ranged from extremely modest to generous. There was no consistency among the libraries in what was included in this budget item: some systems included only the cost of in house training programmes while others also included conference attendance in this area. Further staff costs and overheads were not clearly spelled out and these costs were often hidden in other parts of the budget. What may initially have been a modest budget item may well have been quite generously funded if the true cost had been reflected in the budget.

Evidently the cost of training and perhaps more importantly the cost of not training needs to be examined in public libraries in both countries. Pringle (1988) states that a low level of funding will restrain training:

Cost of course is one factor that will crucially affect training and it is one area where public libraries show marked differences. A 1984 survey showed training fund allocations varying between zero and 21,000 pounds with some 50% of public libraries spending under 1800 pounds. ... A low level of funding must inhibit any training programme. (Pringle 1988).

A more recent study by Carver (1992) quotes figures relating to the cost of training in the United States from a 1986 report:

Estimates that more than \$100 billion dollars and 15 billion work hours are spent annually on training programmes but that as little as 10 percent of the expenditures result in long-term behaviour change. (Carver 1992).

Training can be expensive. However, the cost of not training is even greater. Newer technology, while coming down in price, is expensive to purchase and related costs for maintenance are also quite pricey. Without training, any investment in the equipment cannot be maximised.

Funding bodies as well are demanding that more emphasis is placed on spending money wisely: investment in equipment is limited without the corresponding investment in staff training.

10.3.2 Documentation

There is also a clear need for simplified and clearly written documentation: specifically, for training and staff manuals. So many policy and procedural changes are made when any system, but particularly when an automated system, is introduced that it is imperative that staff are kept up to date with the most recent changes. Staff in many of the sample libraries also commented that the material produced by the vendors was unacceptable: they had to rewrite the vendor's manuals for their own staff. In her research Johnson confirms this:

Several libraries specifically cited the lack of adequate vendor-supplied training and documentation as a problem as implementation proceeded. (Johnson 1991).

This too will become a training need: how to write clear, concise yet thorough training manuals.

We were careless and didn't keep our staff training manuals up to date and we need that now. That became clear. And certainly the need to communicate the procedures and policies very clearly to your staff. On an ongoing basis. (COSC, Systems and Special Projects Librarian).

Manuals and other means of documentation however are only one element within the construct of a training policy: evaluation needs to be addressed in more depth.

10.3.3 Evaluation of Training

Evaluation is a key component of the cyclic training process and must not be eliminated or skimped. Evaluation serves to determine if skills and attitudes have been learned and, more importantly, retained.

Evaluation serves to examine all aspects of the training cycle and can be used to probe specified elements within the training itself such as:

The evaluation of IT training

Using IT to teach IT skills and the evaluation for this

Employing a skills based approach to assessing training needs and determining methods of evaluation that are most effective in establishing that the skills have transferred

Examination and analysis of written policy documents on training within a particular library system

Evaluation is an essential part of the training process: for the libraries in the study it has more often been recognised in the realms of theory not of practice.

Clear, constructive methods of evaluation that could be applied in any library need to be developed: this could form the basis of a future study.

10.3.4. Transfer of training

The transfer of training, that is, did learning and application of the training actually take place, is much harder to define and to measure. Unless the training activity has been about a specific manual task it is extremely hard to measure the results. Many training opportunities are designed to raise awareness of an issue and so it is difficult to make an accurate measurement of whether any transfer of training has occurred.

Transfer of training is a complex process and needs further detailed research which public libraries could then apply in their training sessions.

10.4 Conclusion

In conclusion, this study found that training methods do not differ radically in Canada and England. The reasons for this are many: a common cultural background in providing and promoting public library service is certainly one part of the similarity. While there are differences in governance of and delivery of services between the two countries there have been common developments as noted Chapter Four. In addition the commercial companies who have supplied IT services to public libraries are the same in both countries.

There has been a shift from individual responsibilities to more emphasis on team and group work for staff working at entry level positions particularly in the circulation area. The technology, in taking over many of the manual and repetitive tasks, offers freedom but reduces the opportunities to create and foster individual responsibilities found in a manual circulation system.

Job boundaries are also blurring as more technology is introduced into libraries. The role of middle managers is also changing: they are taking on more of the managerial responsibilities inherent in their positions. Consequently paraprofessionals and other staff without formal library

qualifications are taking on supervisory roles. Training for staff at both these levels is essential if they are to successfully fulfil their new roles.

New positions have been created. Posts for the management of the technology have been added to job responsibilities for senior managers or an entirely new position has been created. This has also created a need for a more educated staff: the need to understand and explain the information found on the screen particularly to the library's public requires higher intellectual skills.

Areas for further research include costs of training: not only the stated costs but also the costs of not training. Documentation needs to be considered: clearly written manuals that include local examples and situations are essential as reference tools for the staff.

The evaluation of training needs to be examined in depth: what does the library system want to accomplish by giving training to its staff? Transfer of training, one component of the evaluation, also requires a comprehensive examination.

The general conclusions have been observed by the researcher since completing the field work. Team work is essential in an environment where technology is used to any extent. Equally essential has been the need to have clear and unambiguous lines of communication. Traditional services in public libraries have not disappeared: they have been transformed by the technology. Training will allow library staff to bring their service into the next century.

Chapter 11

Update

Information technology has brought rapid changes to libraries of all types. This has been especially evident during the period when the research had completed the field work but had not yet completed the analysis and writing up of the thesis. It is to survey some of those momentous changes that this chapter as a postscript addresses itself.

Batt (1993) states that IT is crucial for service delivery: for public libraries he foresees that reliable continued funding and consistent national policies are more important than IT developments. The 1995 Review (ASLIB 1995) of public library service pinpointed the need for a thorough review of the future requirements of staff to work in public libraries: the selection, education and training of recruits will be an essential part in ensuring the survival of public libraries in turbulent times.

The review undertaken by the Department of National Heritage has identified that "the single most important change [in public libraries in England] will arise from information technology". (Reading 1997). Technological progress has been extremely rapid, particularly in the past five years. Developments such as email, discussion lists and the World Wide Web (WWW) changed considerably the ways in which staff in libraries of all kinds are able to use these tools. They have become commonplace in academic libraries and will become increasingly common in public libraries as structures to support them mature. Librarians are turning to electronic sources not only for service delivery but are also incorporating and using the technology into their training programmes (see for example Teaching Library Skills).

It was certainly not evident at the time that the interviews were carried out that such rapid developments would take place or what this would mean for development of services in not only public libraries but any library. Bearman (1987) for example saw four trends emerging:

Renewed emphasis on problem solving, an increased awareness of the importance of lifelong learning, greater economic challenges and redirected attention to sociocultural concerns. (Bearman 1987).

The economic changes foreseen by Bearman were the result of the move to an information intensive society and a rise in the value of information. She however did not address in any depth how access to that information was to be found. Databases compose one area where there are noticeable differences. The move from a service available via a telephone line, such as Dialog, to one that is available on CD ROM and increasingly via the World Wide Web has shifted the role of librarian from primary searcher to consultant. Cataloguing

departments are also taking advantage of large bibliographic databases to download records from a central utility and to manipulate those records for local variation.

Public libraries have become the place where IT is accessible to the general public. The Labour party argued during the run up to the 1997 election that public libraries must be one of the places where the general public can have access to the Information Superhighway. But it is not only the general public who want to use and access the newer technologies. Many librarians are joining discussion lists to keep up to date on leading edge developments, to ask for assistance, and to hear how other librarians approach similar problems. Email has shortened the lines of communication between librarians at all levels: it is an example of a further levelling of boundaries between not only librarians but also between types of libraries. The WWW is used as one more reference tool in answering inquiries from the public. These developments were certainly still in an embryonic state at the time the interviews and analysis of them was completed.

Along with these developments have been a number of initiatives that have come from the Follett (1993) and Fielden (*Supporting Expansion* 1994) Reports which while principally effecting academic libraries will nonetheless have equally radical impacts on public libraries. The eLib (Electronic Libraries programme) projects in particular will have a lasting effect on libraries of all types: the issues of electronic copyright, training in the electronic technologies, networked learner support issues, electronic journals, and other such projects will have incredible impact on library service. Bearman had touched on this in her acknowledgement that "the protection of privacy, intellectual freedom, and other ethical issues will take on even greater importance as the perceived value of information grows". The recent public library review has stated that the government will consult on the future of legal deposit requirements and its extension to electronic media (*Reading* 1997). Both scholarly and popular library journals are full of articles which debate the advantages and disadvantages of electronic access to collections and how librarians can cope with the introduction of increased technological developments.

The national review of public libraries also suggests that:

They [public libraries] need to consider the implications of a change in focus from storing and indexing documents to providing a managed gateway to a world of on-line information. The public library system should start to see itself as playing a key role in helping and training people to navigate IT systems and as providing and organising electronic material to which people want to gain access, at home or inside a library building. (*Reading* 1997).

Several initiatives which will have training implications - aside from the obvious ones connected with assisting the public in using the technology - are in the co-operative initiatives which would see an overlap between types of libraries in the services that they can offer.

Several of the eLib projects specifically target training issues: Netlinks, Netskills, SKIP, TAPIN and IMPEL for example (ELib Projects). Skills staff will require in this fast changing world are the focus of these projects and the results will have long lasting effects on public libraries. Other initiatives include the Information for All programme and extending JANET to public libraries. The national review proposes that funding for these latter initiatives come from the Millennium Fund in the first instance with substantial funding from the lottery as well (*Reading 1997*).

The researcher did not find much evidence of the use of either CBT or open learning packs for training. Since the interviews were completed however open learning packages have been developed which use the principles espoused by CBT for the delivery of staff training. The Northern Training Group (1994) has taken an active lead in this work and their 1994 report for the British Library demonstrates that based on their initial analysis that training packages are needed. The areas that the researcher identified as necessary in the first wave of development are the same areas chosen by the Northern Training Group as their focus. Packages have been developed in the areas of financial management, for services to disabled users and for mentoring library staff. The researcher did find that managerial skills, including financial skills were required as financial responsibility was devolved through to middle managers.

Results similar to that of this researcher were also found by Daniels (1995) in college libraries. Daniels also found that there is no radical decrease in the numbers of staff following automation although redeployment and natural attrition contribute to lower staff levels. Likewise Daniels observed a shift in that professionally qualified staff are delegating responsibilities to paraprofessional staff members. Both the researcher and Daniels found that the new skills acquired by counter staff are both technical ones (operating the light pen for example) as well as increased reasoning skills (staff must be able to think faster in order to cope with the amount of information available). Daniels like the researcher also found that there is a significant increase in work load for clerical staff. Maintenance and backup of the systems require more work than a manual system and automation has meant that jobs for which there was no time when running a manual system can now be done. As in this research, Daniels also found that the level of job satisfaction has increased following automation: the perception that you and your staff are on the leading edge technologically is very important. The perceived efficiency factor of the system was commented upon positively by all the respondents in the researcher's interviews. The fact that you are doing a job well was another factor stressed by the interviewees. Team work as well becomes more important: respondents in this survey reported that they had lost their individual responsibilities but that they had to know more about what everyone else did. This sharing and pooling of experience was also observed by Daniels in her survey of college library staff.

Like the researcher Batt (1993) does not see that the range of services has been changed radically by the introduction of automation. The working paper prepared by Batt (1993) for Comedia stresses that IT is crucial for service delivery and further stresses, as does the researcher, that housekeeping systems are well established within public libraries. This has resulted in a reduction in administrative overheads particularly in the avoidance of some manual systems such as overdue procedures. In line with both the researcher and Daniels (1995), Batt argues that there has been no significant reduction in staffing levels but that automation has released staff from time consuming clerical tasks. Batt however sees that a threat will come to traditional public library services from the mass entertainment business: CDi systems for example as well as from the Internet. For the moment however Batt foresees that fewer staff will be required for counter and check-in services. He does concur with the researcher's view, substantiated through the interviews, that clerical and paraprofessional staff are being given more responsibility for intellectually stimulating work such as information and reference work. This area will require higher staffing levels.

Batt (1996) continues in this vein in his widely published columns examining technological developments in public libraries. In mid 1996 he suggested that senior managers of public library take the lead in providing community information via Freenets, that the public library be seen as a learning resource centre for the general public and that more co-operation between local services is necessary. If these developments are acted upon it would mean that more staff training would be necessary so that all levels of library staff could not only be familiar with the technology but also able to provide simple instruction to the general public who wish to take advantage of the technology. This would certainly be an expansion of the role taken by library staff at the moment. To Batt this means that the public library is a place not only to find books but also to find the experts.

One problem with automation that is not often addressed is the ongoing costs for not only equipment but also for software. Initial funding often covers these costs but does not allow for any additional funding for upgrades, for staff training, for staff to convert holdings or any new staff. As this researcher and others have noted there are no significant reductions in staff levels after automation but there is a continuing and increased level of staff training necessary. Staff must be able to issue clear instructions to the public as more self issue systems come into use and as more tools are available on intranets. Staff in libraries are reluctant to change time honoured procedures and this was apparent in the researcher's survey. Wright (1995) also stresses this point by stating that the tendency for "it's always been done that way" mode to continue long after the reasons for doing so have ceased to exist. Involvement of staff in the decision making process is shown to be a successful method of introducing automation into the library.

Wright (1995) discusses the reasons for automating the circulation and cataloguing functions. Reasons cited by the respondents in the researcher's survey match three of the four primary reasons Wright offers. Those three are:

- Improved library services for users
- Improved collection management
- Increased resource sharing

The fourth reason Wright cites is the lower costs of maintaining the system. This infers that updating can be accomplished more quickly and with more information given. This reason for converting to an automated system was not specifically given by any of the respondents in the survey although it was stated by at least one senior manager in each country that the up front costs of automating are considerable and ongoing.

The benefits cited by the respondents in the researcher's survey correspond with those that Wright (1995) offers. Librarians in both Canada and England expressed their thoughts slightly differently:

- Better inventory control
- Easier ways to process routines such as overdues
- The quick creation of selective bibliographies
- Simple ways to inventory the collection

Librarians in the researcher's survey stressed the management and collection issues as benefits to them as well as the benefit of having overdues automated.

The respondents in the researcher's survey spoke of the changes to their day to day tasks. The computer or more specifically the automated system chosen required that certain routine maintenance activities be done at specific times each day. Another change meant that greater overall knowledge of all routines was necessary for all staff. A third observation was that there was blurring of job boundaries between clerical and paraprofessional staff as well as between technical services and public services staff personnel. Wright also acknowledges that these changes are occurring. He further concurs with the researcher's conclusion that the organisational structure is flattening as a result of the changing communication patterns and decision making processes within the library administration. Wright states that the problems that come with automation are a result of the human dynamics not necessarily the system chosen.

The computer terminal has rapidly become the focus of the library worker's day. Therefore, library management needs to acknowledge that there is a need for training in the new skills

and in the process of change. Respondents in the researcher's interviews were positive about the training that they had received and they wished to have more training. The excellent series of training guides produced by the Library Association demonstrate that the profession has started to take training very seriously. Biddiscombe's guide (1997) in particular concentrates on the central premise of this thesis: that IT now has a pervasiveness in libraries that training specifically for the necessary skills and abilities must be addressed.

With specific reference to training for an automated system Biddiscombe (1997) finds that *ad hoc* systems have developed:

As each generation of these library management systems (LMS) have been developed, staff training has been provided in the adopting library during the first few weeks of its operation. In these sessions all relevant staff are brought together to undergo supervised training. ... This form of *ad hoc* IT training has become well established over the years. (Biddiscombe 1997).

Biddiscombe does highlight the move from what can now be regarded as a less complex era of IT use to one where the IT environment is multi-tasking, all pervading and continually developing. This has meant an expansion in the IT training offered from that specifically geared to the automated system and including for example basic keyboarding skills to one which would include basic computer skills, word processing skills, email, database and CD ROM searching as well as more specialised tasks such as videoconferencing.

The idea of transferable skills has also become more prevalent in the literature: Biddiscombe certainly stresses this as does Fielden (*Supporting Expansion* 1994). In academic libraries the expansion of the role of the librarian to that of a para-academic as exemplified in the library instruction sessions demonstrates one area where a transferable skill is seen.

It is obvious that technology will continue to evolve rapidly and the uses that librarians can make of the technology will also evolve rapidly. The conclusions drawn by the researcher have been substantiated and observed by a number of reports and by individual writers in the 1990's.

Staff training has come of age.

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INTERVIEWS

Name: _____
 Position: _____
 Library: _____
 Date: _____

The first section gathers background information of the individual being interviewed.

SECTION I

1.1 What term would you use to describe your management position?

- Senior manager
- Middle manager
- Junior professional
- Other - Please specify

2.1 How long have you been in your current position?

- Years with this library

2.2 What other library or information positions have you held?

3.1 Have you had any training or experience with Information Technology (IT)?

- Yes
- No

4.1 How would you define your level of expertise with Information Technology?

- Very basic
- Moderately knowledgeable
- Knowledgeable
- Sophisticated user

5.1 How did you gain this level of expertise?

6.1 Has your job changed since coming to this position?

- Yes
 No

6.2 Have the changes been related to IT developments?

6.2.1 Could you specify the changes that there have been in your position?

6.3 Do you anticipate that the nature of your job will change with the introduction of more IT?

6.4 For middle managers only: Has your management role changed in the past 5 years?

- Yes
 No

6.4.1 Would you characterise the changes as expanding or diminishing your position in the organization?

6.4.2 Are these changes directly attributable to IT?

7.1 Using the following scale would you say that you, as an individual, have been relieved of the more routine work of librarianship as a result of IT in the library?

-] Totally
-] Some changes
-] No real change
-] Very little change
-] Not at all

7.2 Has this given you extra time?

-] Yes
-] No

7.3 Do you anticipate that this will change?

The second section of questions relates to information technology (IT) both within your department and in the library in general.

SECTION II - INFORMATION TECHNOLOGY (IT)

8.1 What functions in your department or section were first automated? Date of introduction, if known.

8.2 What staff were involved in the original decision to automate?

8.2.1 Would the same range of staff be involved in making this decision today?

4

8.3 Why was this particular application chosen first?

9.1 What further IT applications are there in the library and in your department?

9.2 What do you see coming by way of IT applications for your department or section in the next 2-3 years?

10.1 What do you see as the advantages of IT in your department and in the library as a whole?

11.1 What do you see as the disadvantages of IT in your department and in the library as a whole?

I would now like to ask some questions about training in general within the library system.

SECTION III - TRAINING IN GENERAL

12.1 What do you understand by the term staff training?

12.2 What do you see as the goals of training in the organization?

12.3 To what extent are the following used to assess training needs?

1	2	3	4
Always	Often	Occasionally	Never

- Staff appraisal
- Discussion with individual staff member
- Request from individual staff member for training
- Management directive re training in specific area
- See need and act upon it

12.4 Are any of the above methods used in combination with any other method to assess training needs?

12.2 Are there other methods that you use to assess training needs?

13.1 What training needs have been identified in the library?

13.2 Which of these needs would you say is a priority for your department?

14.1 Training and staff development are by their very nature closely intertwined. Thinking only about training, would you define the following as training activities?

- Short courses
- Workshops
- Job rotation
- Job exchange
 - within own library
 - outside own library
- Visits to other libraries
- Writing and publishing activities
- Committee work
 - within own library
 - with LA group

14.1.1 What training activities are used regularly in your training programme?

14.2 Are there any other activities that you would define as training?

15.1 How supportive would you say senior management of the library is of training?

- highly supportive
- moderately supportive
- not at all supportive

15.1.1 Why do you say that?

15.2 How supportive would you say senior officers of the local authority are of training?

- highly supportive
- moderately supportive
- not at all supportive

15.2.1 Why do you say that?

I shall now move on to questions about personnel and resources available for training.

SECTION IV - TRAINING: PERSONNEL AND RESOURCES

16.1 Are all the identified training needs satisfied?

Yes

No

16.2 Please explain:

17.1 Who in the library has the responsibility for training?

17.2 Who actually does the training?

18.1 Using this scale, to what extent do you use the following in your training programme?

1	2	3	4
Always	Often	Occasionally	Never

In house training

Given by library

Given by local authority

Cooperative scheme with other local libraries

LA workshop

Other (i.e. non LA) workshop

CBT or interactive videos

Other - please specify

My next section concentrates on IT and training

SECTION V - IT AND TRAINING

19.1 Which IT applications are in use in your library:

- Office automation system
- Electronic mail system
- Online database
- CD ROM
- Cataloguing system
- Acquisitions system
- OPAC
- Microcomputers for public use
- Videotext
- Desktop publishing
- Other - please specify

20.1 As a result of the introduction of IT were staff redeployed FROM your department

- Yes
- No
- Not yet

21.1 Were staff redeployed TO your department?

- Yes
- No
- Not yet

21.2 What has this redeployment meant for you?

22.1 Prior to the introduction of an automated system, had any previous IT related training been given to the staff?

- Basic introduction to the system
- Computer literacy
- Nothing
- Other - please specify

23.1 What new skills have staff had to learn since the introduction of IT?

23.2 Does training for automation show gaps in other types of training given?

24.1 On job specifications for positions in your department is there now a requirement for training or experience in IT or automated systems?

- Yes
- No
- Depends on the job

24.2 Do you specify if this is desirable or essential experience?

- Desirable only
- Essential only

25.1 Are you finding that new employees do have sufficient skills to work with IT or have the background to very quickly grasp relevant information?

25.2 Do those who are returning to library work after a gap have sufficient skills to work with IT or have the background to very quickly grasp relevant information?

The following section relates specifically to automated circulation systems: their introduction, necessary training and ease of use.

SECTION VI - AUTOMATED CIRCULATION SYSTEMS

26.1 What circulation systems, manual and automated, have been used in the past 10 years?

System

Introduced?

27.1 Is the current system, XYZ system, easy to learn and to train others to learn?

- Yes
- No

27.2 Is this the system you would choose again in similar circumstances?

- Yes
- No

27.3 Why do you say that?

28.1 Was training given in IT when this system was first introduced?

- Yes
- No

28.2 Who were the people responsible for this training?

28.3 Who gave this training?

- Library staff trained by vendor
- Vendor only
- Library staff learned as they went along
- Other - please specify

28.4 Where was the training given?

28.5 Do you feel that this training as given was successful?

- Yes
- No

28.6 Please explain.

29.1 Has there been any further training as the XYZ system is upgraded?

- For the original staff
- For new staff

29.2 Do you belong to a user support group?

- Yes
- No

29.3 Do you find this a useful contact for training or other purposes?

30.1 Was a training file developed? A training file will mirror the live data in the system and give staff an opportunity to manipulate the information and develop confidence using the system.

- Yes
- No

30.2 Was the training file held online or as a hard copy?

- Online
- Hard copy

30.3 Was the training file designed with exercises and specific examples of transactions, daily problems, etc.?

- Yes
- No

31.1 Is the training file regularly updated?

- Yes
- No
- No longer an active file

32.1 Who has this responsibility?

33.1 Do you test staff competencies in the system?

- Yes
 No

33.2 How are the competencies tested?

34.1 Do you feel that this is something that should be done?

- Yes
 No

34.2 Why do you say that?

35.3 Do you feel that it is valuable for the staff, particularly front line staff, to have troubleshooting skills?

SECTION VII - IMPACT OF IT AND TRAINING

36.1 What training has IT made necessary?

37.1 Has the introduction of IT caused you to identify training needs in non technical areas?

38.1 With the wide range of IT in use throughout the library, who provides the overall expertise about the systems?

38.2 Does that person also provide the training?

Yes

No

38.3 How is this service provided?

I will now turn to the evaluation of training

SECTION VIII - EVALUATION

39.1 What methods are used to evaluate training in the library system?

40.1 What follow-up to initial training is undertaken?

41.1 Have any training programmes been altered as a result of the evaluation done?

42.1 What factors lead to training being unsuccessful?

42.2 What factors lead to training being successful?

SECTION IX - TRAINING IMPACT

43.1 What methods do you use to measure the impact of training on the individual?

44.1 Using the following scale, tell me to what extent you agree with the following statement:

Training in IT leads to more positive attitudes to having and using IT in the workplace.

Strongly Agree Agree Neutral Disagree Strongly Disagree

44.2 Why do you say this?

45.1 In your opinion what is the impact on the organization of the IT training given?

46.1 Have I left out any areas relating to training and the impact of IT that you feel should be included?

The final section is on policy and specific strategies adopted by the library and is to answered by the Chief Librarian or senior deputy librarian.

SECTION X - SENIOR MANAGERS

1.1 What is your budget for in house and external training? That is, what is budgeted by the library for the training itself but does not include any staff or trainee salaries.

- Less than £1000/year
- Between £1000 and £5000/year
- Between £5000 and £10000/year
- Over £10000/year
- Other - please specify

2.1 Does this budget cover:

- Room rentals
- Audio-visual items
- Handout preparation
- Course development
- Other - please specify

3.1 Are there other expenses relating to training which are covered by other budget categories?

- Conference attendance
- Speakers fees
- Other - please specify

4.1 Do you anticipate that this budget will, in real terms, increase, decrease or remain at the same level in the next 2-3 years?

- Increase
- Decrease
- Same level

4.2 To what extent?

- percentage

5.1 Have your staff ever been trained to deal with what is popularly known as the change process?

- Yes
- No
- Partially

6.1 Would you recommend that this be done for all the staff including paraprofessional, technical staff, etc.?

- Yes
 No

6.2 Please explain

7.1 Was training an issue under negotiation when contract discussions with vendors of automated systems were underway?

- Yes
 No

8.1 Did you specify the amount and type of training you wished?

9.1 Did you ask about the training the vendor's trainer had had?

- Yes
 No
 Not a particular concern

9.2 Was the vendor's trainer also the system troubleshooter?

- Yes
 No

9.3 Did you find this was an advantage or disadvantage to your library?

10.1 How many of your staff were trained by the vendor?

- Staff

10.2 What was the composition of this group and how were they selected?

11.1 Did they become in effect a team of trainers or remain as individual trainers for a particular site?

12.1 Why were these individuals chosen as the trainers?

13.1 Has choosing this particular range of staff to be trainers been a successful strategy?

14.1 Was one person in charge of all aspects of the training?

Yes
 No

15.1 Who was this person?

16.1 Was a training plan developed and followed?

Yes
 No

17.1 What did the training plan include?

18.1 Has a procedures manual been developed to which all staff have access?

Yes
 No

19.1 Is this regularly updated?

Yes
 No

19.2 By whom?

20.1 Were you able to schedule training when you wanted it?

Yes
 No

20.2 What constraints were there on this?

20.3 Performance indicators are being introduced in many industries as well as in libraries. Do you feel that the information they provide is valuable for the library?

- Yes
 No

20.4 Why do you say this?

20.5 In what areas do you foresee performance indicators being developed?

21.1 On the basis of your past experience would you make a similar decision today regarding automation, that is, choosing the route and method that you have?

21.2 Please explain.

22.1 Has IT and/or automation achieved what you had hoped it would?

23.1 Have I left out any areas relating to training and the impact of IT that you feel should be included?