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A strategic planning model for meeting the information technology needs in a school of social work

Bloch, Judith Ellen, D.S.W.

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U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

A STRATEGIC PLANNING MODEL FOR MEETING THE INFORMATION TECHNOLOGY NEEDS IN A SCHOOL OF SOCIAL WORK

BY: JUDITH E. BLOCH

A dissertation submitted to the Graduate Faculty in Social Welfare in partial fulfillment of the requirements for the degree of Doctor of Social Welfare, The City University of New York.
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1/9/95
Date

Chair of Examining Committee

1/9/95
Date

Executive Officer

Bogart Leashore

Michael Smith

Supervisory Committee

THE CITY UNIVERSITY OF NEW YORK

Abstract

A STRATEGIC PLANNING MODEL FOR MEETING THE INFORMATION TECHNOLOGY NEEDS IN A SCHOOL OF SOCIAL WORK

by

Judith E. Bloch

Advisor: Professor Irwin Epstein

This project addresses the information technology needs of a school of social work by offering a strategic plan with a broad conceptual framework designed to bring the school's constituents into the Information Age. Strategic planning research methodology was the central practice/research intervention used in the study. In-depth interviews were paired with self-administered surveys to elicit data on the school's use of computers, the attitude of consumers toward computers and their future projected needs.

Interviews with students, staff and faculty generated several themes regarding strategic planning for computers: frustration with current computers, the need to computerize school information, obstacles to computerization, the process nature of computerization, planning for consumers with

disabilities and the need for education and technical support.

Most respondents accept the inevitability of computerization in schools of social work and in social work education. Eighty-nine percent of faculty and over 90% of masters and doctoral students want to know more about how computers can help them as social workers. Doctoral students demonstrated unanimous support for strategic planning as an overall approach to managing sociotechnical change, faculty 57% and masters students 98%. Ninety percent of faculty indicated a desire for training and technical support, 90% of doctoral students and 81% of masters students. Respondents cited the need to obtain a computer consultant and to develop finance strategies to support computerization.

Guidelines were generated for managing the strategic planning process including establishment of a strategic planning committee, insuring broad representation of the school's constituents, maintaining reasonable expectations for technology, and conducting a needs assessment as part of the process. This model encourages user participation, draws on the knowledge of resident experts or technical "gurus" and encourages planners to investigate sites where computerization has been successfully implemented.

A quality improvement paradigm was introduced as an overarching framework for the planning endeavor. It requires the active and ongoing participation of carefully chosen and committed team members to conduct information gathering, decision making, plan development, evaluation of the planning process, and re-design of the strategic plan as necessary.

Data from the study indicate constituents nearly unanimously accept the use of technology in social work teaching and administration. Future studies will determine whether a trend toward accepting computers has begun and if resistance to computerization has become outdated.

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A doctoral dissertation is as good as its subjects permit it to be in terms of their being available, honest and open to the topic. The students, staff, faculty and administration at Hunter College School of Social Work were always willing to participate in interviews, complete surveys, meet with me, provide information and support this project in any way they could. My gratitude goes to the generous people at the school who went out of their way to assist me in completing this project. I truly couldn't have done it without you.

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Thanks to my family and friends for giving me space when I needed it and understanding the needs of a working Mom and doctoral student.

It is my hope that this model will be of service to other schools of social work in the country and around the globe as we continue to shape information technology and make it work for social workers.

Judith E. Bloch

Fall, 1994

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CHAPTER ONE

INTRODUCTION

As society relies more on computers human service organizations, too, have been employing the new technology for diverse purposes with the general goal of improving service delivery and effectiveness. Since the coming of the information revolution, growth in computer applications has occurred rapidly as equipment became more user-friendly, more affordable, and therefore more adaptable to the needs of social services. With the promise of enhanced efficiency and effectiveness though comes the need to contour computerization to the context of working with human beings.

Purpose of the Project

This project addresses the information technology needs of the Hunter College School of Social Work by offering a strategic plan with a broad conceptual framework designed to bring the school's constituents into the Information Age. Like most schools of social work, Hunter College has introduced piecemeal computer applications for the benefit of students, faculty, professional and clerical staff on a

limited scale. That scale is being broadened to accommodate greater demands for information, the ability to share data, accountability requirements and increased faculty and staff expectations regarding availability of equipment and technical support.

Hunter is fortunate to enjoy a networked computer laboratory with microcomputers and shared printers where students and faculty can use wordprocessing, statistics, database and qualitative research packages. Yet gaps exist in the amount, quality and availability of equipment and support to meet the needs of all the school's constituents. This planning model provides strategies to maximize the potential usefulness of computerization and recommendations for coping with organizational innovation and change that accompany the process.

Significance of the Study

The project concerns the content issues relevant to computers in educational institutions and the inherent design and strategy issues of the planning process. Attention is devoted to key decision-making groups with the school along with significant external groups and political conditions. The

value of this study lies in its potential use for schools of social work that are planning to incorporate technology into all aspects of functioning.

A central assumption of this project is the need to identify and explore elements such as value tensions, political dynamics, human and financial resources, key actors in sociotechnical change and decision-making, and attitudes toward innovation to develop baseline data for constructing a management guide to the computerization process. Idiosyncratic elements differentiate one school from another but specific conditions recur from site to site which can prove useful in terms of replicating this planning approach.

Such knowledge helps to establish meaningful timeframes, to anticipate the character and type of response to organizational change, to estimate the level of resources of staff, time and money that are necessary for such an undertaking, to establish appropriate standards of quality control and to assure continuity among schools of social work. Diverse constituents can benefit from this project including program planners, school administrators, faculty, students and ultimately clients as we better understand the process of planning for the incorporation of information technology in

the school of social work milieu.

The literature review that follows provides a history of computer use in human services and describes current trends in the use of computers in human services. In so doing, it speaks to the concept of computer literacy and highlights model curricula for familiarizing students with information technology. It describes the computer applications used in various fields of practice and explores obstacles encountered in trying to computerize human service organizations. The literature review also reflects the views of those who have constructively criticized the arrival of technology in human services and have articulated concerns about its detrimental effects upon workers and practice.

Chapter One has served to introduce the nature of this research project and what it intends to accomplish. Chapter Two contains a review of the literature on computers and human services. It provides an overview of the historical use of computers in social work practice, identifies current dilemmas, unmet needs, and explicates various proposed models for educating social work students and practitioners in this area.

Chapter Three explains the methodology underlying this

planning model and provides rationales for the use of both qualitative and quantitative methods to derive a strategic planning model. It explains the choice of strategic planning itself as a research methodology and additionally describes the data collection and analysis process and sampling methods.

Chapter Four is devoted to the quantitative portion of this research project. It contains the findings from three original survey instruments administered to masters, doctoral students and instructional faculty.

Chapter Five is dedicated to the qualitative aspect of this study. It uncovers the underlying themes and categories derived from 19 semi-structured, in-depth qualitative interviews conducted with constituents of the school, namely faculty, students, professional and clerical staff.

Chapter Six discusses the results, analyzing and interpreting the research findings and integrating the data with what emerges from the literature. It unifies the findings from the literature, outcomes from this study, and ideas from consumers to produce a strategic planning model for computerization in schools of social work.

Finally, Chapter Seven concludes with an overall summary of the research project, the findings and highlights of the

planning model and suggests how schools of social work might use these strategic planning techniques for computerization.

CHAPTER TWO

A REVIEW OF THE LITERATURE

Introduction

Due to the rapid growth in computer applications a notable gap exists between what is occurring in the field and what is published in the social work literature. As a result, the literature tends to reflect organizations that have created state-of-the-art systems while most organizations are still struggling with basic applications, usually wordprocessing programs, spreadsheets and database management systems.

Definition of Terms

Many terms are used to describe different aspects of computer technology including information systems, information management, information technology, decision support systems, management information systems, personal computers, microcomputers and mainframes. The rise of computer jargon or "technobabble" can often serve as a deterrent to many who might otherwise embrace the new technology (Dahmer, 1992). For this dissertation, computerization and the related terms used

herein apply to any type of computer system used to collect and organize data that assist the social work professional to improve service delivery and the social work educator to manage data, instruct students, maintain records, conduct research, produce publications and administer a school of social work.

Social workers experimented widely with computers particularly in the last decade but the response of schools of social work to address information technology varies considerably according to published accounts in the literature. Few have mounted a sustained effort to define a role for computers in social work and promote it throughout the profession. Although a growing group of practitioners committed to exploring the marriage of information technology and human services exists, social work lags behind other fields such as education, medicine and nursing in implementing computers for tasks other than basic wordprocessing and statistics. In describing a prototype information system for health workers, Mutschler (1990) laments that despite the potential information technology offers health care social workers, the actual use of computerized patient data has been limited and slow to develop (p. 191).

As with schools of social work, the level of computerization varies widely in departments of social work within health care institutions. Auerbach, Cohen, Ambrose, Quitkin and Rock (1993) describe a database and tracking system currently used at an urban hospital to evaluate length of stay for Alternate Level of Care (ALC) patients. This system is essentially a work in progress with changes and updates continually being made as the system is refined to meet staff and also reporting needs. Yet this type of system is hardly reflective of typical tracking methods for social workers in health care settings who still rely on manual systems however inadequate those may be.

A body of literature on this subject has evolved and social workers have established conferences on computers in human services, created electronic communication networks and fostered vigorous debate about its appropriate use. The first international conference on HUman Services and Information Technology Application (HUSITA) was convened in Birmingham, England in 1987 and two more conferences also international in scope have been organized since. Such gatherings have provided human service professionals engaged in computing with the opportunity to meet face-to-face for ongoing discussions

in various areas, something that the electronic networks cannot provide. Professional journals such as Computers in Human Services, Computer Applications in Social Work Journal (in England), Computers in Psychiatry and Psychology, and Micropsych have been founded as well as the Computer Use in Social Services Network (CUSSN), a nonprofit association of professionals interested in exchanging materials and experiences on computers in human services. This network also maintains CUSSNet, over 100 local bulletin boards that share a conference, handle national and local mail and file transfers, provide for the downloading of public domain software, and provide access to specialized databases on human services computing (CUSSN, 1992).

These developments are testimony to the level of worldwide interest and growth in this area and provide a mechanism for communication and access to human service computing between active users and the field at large. The increasing recognition of the actual and potential impact of information technology on society demands the increased participation of social work educators in assessing its impact; capitalizing on opportunities and anticipating, preventing, and dealing with its potential problems for people

(Buckles, 1989, p.2). Now social work students are more likely to encounter clients grappling with problems stemming from the interface with technology and should be prepared to help them deal with those issues.

Despite hopes by some that information technology might be a passing fad, there is every indication that it will continue to exert considerable influence in social work schools and agencies. In a study of 60 human service administrators, managers and direct service workers Mutschler and Hoefer (1990) found that only a small percentage of agencies do not use computers. Yet a specific agenda and role for computers in social work education have not been adequately defined nor agreed upon even as the profession enters what has been dubbed the "second wave" of information technology use (Cwikel & Cnaan, 1991).

Consensus has been reached that information technology will play a major role in social work practice but schools of social work have not assumed the mantle of leadership in establishing standards of practice, routinely incorporating courses on information technology in their curricula, training faculty, students and graduates to become computer-literate, or developing customized software packages for the human

services. Such activities have occurred in sporadic pockets where "computer champions" or "gurus" have invested time and energy in shaping technology to meet the needs of human services delivery systems often at their own expense and with little in the way of recognition or compensation. Ideally the process of evaluating, teaching and debating the innovation of technology as it relates to practice falls within the purview of the university setting but in the field of social work this is simply not true. Academic training is no substitute for agency-based practice but it can provide students with a basic level of computer literacy on which to build as practicing professionals. Research has shown that social work educators who have used computers in their own professional work are more likely to encourage students to use computers (Buckles, 1989).

In a survey of 160 private, non-profit agencies in a metropolitan area in North Carolina, Finn (1988) found that while interest in computer training was great, only 6.8% of the respondents used universities for training. The majority (31.8%) relied upon computer dealers and a variety of other means to get training needs met. In discussing the current projected computer needs of these agencies, he

notes the need to develop human service professionals capable of understanding and developing decision support, expert systems, and telecommunications applications if there is to be widespread uses of these functions (ibid, p. 13).

Resistance and Barriers to Computerization

Early opposition to the introduction of computers was characterized as resistance yet factors other than practitioner unwillingness, fear and anxiety act as impediments to full-scale acceptance and application of information technology in the human services world. Among them is financial inability to purchase and maintain computer equipment; inability or unwillingness to provide adequate technical support and training; determination by agency or school administration that computers are unnecessary; determination by a host agency that social work departments are not a priority for computerization; the belief that incorporating computer technology into practice is inconsistent with social work's basic mission and values; and simply a lack of information about the potential uses for computers in a social service setting.

Social workers' concerns about confidentiality,

mechanization of practice, job security, the need for ethical guidelines, and technophobia contribute to practitioner reticence to welcome computers (Fabricant, 1985; Cwikel & Cnaan, 1991). Social workers have expressed the fear that computers will erode their skill base and contribute to decreased autonomy in practice. For example, Karger cautions against overreliance on the industrial model of production in social services claiming it forces a non-routinized type of work into a routinized and standardized framework (1986, p. 121). He raises concern about the devaluing of a worker's skill base and value if the profession adopts an industrial/rational framework with an emphasis on worker productivity (ibid, p. 126).

Similarly, it is postulated that slow acceptance, especially among practitioners, might arise out of fear of being replaced by computers or at least of being reduced to playing the role of a technician (Mathisen, 1985) by simply acting "on orders" from a computer. Practitioners may fear that clinical databases used to help in decision-making on diagnosis or intervention choices will reduce their independence and autonomy, highly valued aspects of professional practice.

Results of recent studies though run counter to the trend toward examining computer phobia and practitioner fears about dehumanization of clients secondary to the introduction of technology. In a study of 47 social workers, Monnickendam and Eaglstein (1993) were surprised to find both fear and anxiety played little if any role in the computerization process. These findings should be considered with caution as they directly contradict all prior studies that explore these variables. Such results may suggest a social change process as human service workers learn to live with computer technology. However, organizational factors and structures may play more pivotal roles in computerization than personal or intrinsic factors. Ongoing research in this area will help to ascertain whether computer-phobia is beginning to extinguish or not.

A common obstacle to computerization in human service organizations is the level of financial resources required to not only purchase but maintain and upgrade equipment as well as train and support workers on information systems. Over 100 public agencies were surveyed to determine their current usage of computers and the most prevalent identified barrier to achieving agency computerization goals related to funding problems with nearly 62% surveyed foreseeing significant

barriers (Nurius, Hooyman & Nicoll, 1991). Similarly, investing in equipment to create campus or agency computing facilities is not a finite purchase but requires ongoing upgrades, training and technical support, a fact many administrators are surprised to discover (Hawkins, 1988).

Past assumptions regarding negative social service recipient or client attitudes toward the use of computers in practice are now questionable. Early applications involved using computerized client interviews and despite protests from practitioners, most clients enjoyed the process and found the interview content relevant to their problems (Mutschler, 1987). A recent study is in line with these previous findings and shows that clients are more forthcoming with structured interviews conducted by computers rather than by humans (Ferriter, 1993). Thus, despite concern about the impersonal nature of computers, that very quality may make it less threatening for clients to reveal information about themselves and their presenting problems.

The phenomenon of practitioner and student resistance is well documented (Hedlund, Vieweg & Cho, 1985; Born, 1987; Mutschler, 1987) yet in many agencies computerization is no longer a distant dream but a "fait accompli". More human

service organizations than ever are introducing some form of computerization to augment service delivery.

Epstein and Mutschler (1989) suggest that many health care social workers regard computers negatively believing they are merely tools to increase program efficiency possibly at the expense of patients and may also represent a threat to their professional autonomy. Critics point to the propensity for computerization to encourage bureaucratization and a respect for rationality at the expense of the human element of social service delivery (Murphy & Pardeck, 1991). They further argue that management information systems can alter or undermine the culture of an organization if not developed in a socially sensitive manner (ibid, p. 61).

When attempting to understand the source of negative practitioner and faculty attitudes toward computers, it helps to recognize that the arrival of the computer has dramatically altered traditional power and status roles among workers, faculty and students. Senior clinicians or faculty members who have attained significant status and respect among their peers may find themselves suddenly feeling insecure or inexperienced among faculty or staff who demonstrate computer-literacy. Displacement and conflict may affect their

reactions to computers which have effectively reduced their perceived and real status, power and roles in decision-making over the new technology.

Most research on resistance to computers has focused primarily upon students and practitioners but attention has also been directed to the posture of social work faculty toward computerization. Buckles (1989) conducted a national survey of social work faculty to detect their readiness to implement information technology. Her results suggested a high degree of readiness based on a range of variables such as complexity and compatibility of information technology, aspirations for advancement and intraorganizational communication (p. 242). She advocates the use of strategies for planned change that incorporate recognition of these variables in the context of the school of social work environment. Given current work expectations for those in academe, without adequate recognition, incentive and reward to concentrate in the area of information technology faculty are unlikely to involve themselves with computers.

This project investigates how schools of social work can plan for computer use in the coming years to meet the needs of diverse constituents. Billis (1992) writes that the notion of

planning for innovation involves working with a delicate balance of statuses among members, volunteers, users, governing body, patrons, paid staff, and funders (p. 39). Since the introduction of information technology nearly automatically alters the balance of power, status and information channels, it becomes necessary to pay critical attention to how each of these "stakeholders" is affected by such change.

By taking a proactive stance, management can reduce tensions in two critical areas - the informal power structure and the formal communication structure that are subject to immediate impact with the introduction of information technology (Weinbach, 1992). Reliance on functional authority and sensitivity to workers' changing roles when introducing computers are necessary parts of the implementation process.

A central concept in planning for computerization is the recognition that it is indeed a process. Consideration of these dimensions prior to the implementation stage better prepares administrators and staff for the obstacles, emotional responses and issues that must be dealt with as an inherent part of that process. Subsequent equipment changes, updates and training components similarly generate such byproducts and

should be appropriately managed to reduce stress and dysfunction in the workplace.

Why Train Social Workers in Information Technology?

Increasingly social workers are challenged to integrate this technological advance to optimize administrative and clinical benefits. Computer literate social workers can develop applications that are consistent with social work goals, responsive to practice needs and contribute the necessary information to improve decision-making, program evaluation and enhance accountability. Reliance on non-social workers to create and set up these systems fosters unnecessary dependence and can act as a barrier to creating computer systems that fit within the social work environment. Using computer consultants with no knowledge of social work, its values or service models results in a lengthier and costlier stage to program and tailor the technology to the work system it will be serving. We are still in a transition phase in terms of implementing computerization in the human service domain. Computer applications that function well in the business environment must often be customized to mesh appropriately with the social work educational and practice

environments. In addition, students who achieve even a minimal degree of computer literacy improve their marketability and therefore their economic prospects.

The combination of computers and social work produces noteworthy educational implications for practitioners, students, administrators and academicians. Social workers trained in computer systems can design practice-relevant information systems and exert tighter control over those systems as they apply to service delivery, decision support, program and fiscal accountability. They can contribute valuable knowledge at the design stage in terms of knowing what kinds of output must be generated for internal and external purposes.

COMPUTER USE IN SOCIAL SERVICE AGENCIES: An Overview

Computers were introduced to the field in the 1960's to enhance accountability through record-keeping primarily in financial management, documentation and reporting. Initially this utilization had little impact on managers, practitioners or direct service delivery. Since the application of computers was distinct from actual practice with clients and program administration, few concerns were raised regarding its

appropriateness in human services.

Computer Use by Management

Bolder innovations brought computer technology closer to the level of service delivery and focussed on management tasks including program monitoring and evaluation. This phase introduced programs that were useful to the social work manager such as database systems. These integrated data base management systems served such multiple functions as billing, accounting, personnel record keeping, planning, monitoring, and evaluating service delivery (Mutschler, 1987, p. 317).

Computers cannot generate original thoughts, ideas or knowledge but they are capable of organizing massive amounts of information and processing routine types of decision-making. Mutschler and Hasenfeld (1986) acknowledge that the rapid development of low cost computer-based management information systems presents an opportunity to agency administrators to use such a technology to cope with the increasing informational demands faced by the agency (p. 345). They assist the social work manager by reducing the effort needed to process routine tasks allowing more time for other aspects of administration.

Computer Use by Clinicians

More recent applications of computer technology involve its use in clinical social work. Computer systems are used to maintain client records, simulate casework examples, conduct client education, and to provide data to support clinical decision-making. Decision support systems (DSS) are an example of computer technology designed to aid in the management and organization of large amounts of information to provide support in decision-making. DSS has come to refer to interactive computer-based systems that help decision makers utilize data and models to solve unstructured problems (Sprague & Carlson, 1982).

Today programs are being developed, piloted and adapted to meet the needs of direct service. Computers have helped in research, discharge planning, quality assurance efforts, and clinical and managerial decision-making (Vogel, 1985; Kreuger & Ruchdeschel, 1985). Computers have been used widely in the social work health care setting such as database management systems, hospital information systems, and computerized patient records (Epstein & Mutschler, 1989).

Early computerization efforts focused almost exclusively

on executive and middle management functions but newer applications emphasize the needs of clinical staff. Benbenishty (1989) describes a clinical information system for child care workers that includes a behavior checklist completed every four weeks to describe each child. The checklist describes the child's behavior in several dimensions and allows comparisons with nationally established norms, with the behavior of other children in the facility, and with the child's behavior in previous periods (p. 82). Such systems can be part of a broader administrative information system if they are developed independently to maximize the relevance to practitioners (ibid.).

In the 1980's the development of artificial intelligence and expert systems resulted in computers that could process knowledge in non-standardized ways. These expert systems use inference mechanisms to extract decisions from large stores of knowledge at skill levels typically relegated to human experts (Schoech, 1987, p. 923). An early example created by Artificial Intelligence Research Group of LaJolla, California was "Eliza", a non-directive therapist who analyzes each statement as you type it in and then responds with her own comment or question. Since the creation of Eliza more

sophisticated, computer-directed therapy programs have been created.

Newer programs allow users to explore artificial intelligence (AI) before learning specialized languages and systems. "Deep Thought" is an AI system that learns from direct instruction, scans its memory to answer questions and performs deductive inference (CUSSN, 1990).

Computers and Social Change: Community Organizers Advance Practice Using Information Technology

Despite some workers' perceptions that computers are tools of conservative ideology or "big government", they have been creatively tapped to advance numerous and wide-ranging peace and social change efforts.

Community organizers have used technology in unique ways to communicate, gather information on community problems, develop mailing lists and newsletters, and target constituencies. Organizers at one agency active in housing and economic development developed a database to track properties that were vested, or threatened with repossession for unpaid

real estate taxes (Cordero, 1991). By entering data on buildings from the local Community Board and addresses of owners from the Real Estate Register, community organizers could achieve the following:

- track ownership changes during the vesting process;
- readily analyze the types and locations of buildings listed;
- send a mailing to the owners offering help in resolving their problems with the City;
- track the phone calls received in response to the mailing (p. 93).

As the editor of a newsletter that covers activism and grassroots computing, McCullough (1991) reported the following uses of computers among activist groups:

- Tenant organizers are using data bases to predict and fight arson, to document landlord abuses of tenants, and to link tenants who share problem landlords.
- Peace activists have built an international electronic mail and data communications service called PeaceNet that

services a growing number of activists throughout the world.

- Voter registration campaigns to identify and target underrepresented minority communities in registration drives (p.10).

Computer Use in Fields of Practice

Computer use is widespread in fields of practice such as aging, child welfare, drug prevention, intervention, treatment, information and referral services, health and mental health. In the field of aging, database management systems were used to create an interagency link between seven programs providing respite services for caregivers of Alzheimer's patients. The project allowed each program to track clients, monitor service usage, and produce standardized data on requests for service, client demographics and service utilization (Looman & Deimling, 1993). The project achieved its principal aims and most of the effects were salutary but it was not without its share of problems. The program took longer than anticipated to become operational and program staff were more dependent on technical support personnel than expected at the end of the two-year contract. These types of

delays and difficulties are commonly experienced among human service organizations and should be expected when planning for computerization.

Similar efforts have been piloted in the field of drug prevention and intervention. A therapeutic community (TC) in Newark, New Jersey utilized the software package "Q & A" to develop three database systems for managing client demographics, individual histories of substance abuse and a clinical file to record hours spent in group and individual therapy sessions, counseling, and activities outside the TC. Despite limitations in the software package chosen, staff could link with a local university to transmit data for purposes of research and statistical calculations using a file transfer system (Waters, Robertson & Kerr, 1993).

In the field of drug prevention, Bloch (1993) reports the use of desktop publishing, a database management system "Paradox 2.0" and bibliographic software "SciMate" to help with information dissemination in a substance abuse resource center. The programs were used to create custom bibliographies, publish a newsletter, maintain an inventory of materials, and monitor the quality and quantity of program activities through monthly statistical reports. The process of

computerization included difficulties such as defective equipment, weak vendor support, and unrealistic organizational expectations that contributed to staff resistance to and frustration with computer technology. An ongoing revision process is recommended to evaluate and redesign an information management system to decide how well it serves the organization (ibid, p. 173).

Computers have been utilized in child welfare programs to reduce paperwork, assist with routine data collection tasks, and reduce workers' stress levels. In a child protection agency several programs were introduced to address workers' concerns. "Timetracker" was used to keep track of employees' hours and time off; "Clients" was developed to interface with the agency's central dataset on clients. Menu driven options were created to help workers with mundane tasks such as creating a letter verifying a child's birth date and sending it to the Bureau of Vital Statistics (Cahill & Feldman, 1993). Several recommendations were made to ensure a smoother change process and these include: conduct adequate preparatory staff work; rely on voluntary staff participation only; market the simplest program first; and avoid using technology as a staff reduction strategy (ibid, p. 10). These recommendations are

worthy of the attention of any school, agency or practice seeking to incorporate computers in its environment.

The National Library of Medicine cites case examples based on the experience of social workers who use various databases to conduct literature searches and avail clients of information on AIDS and HIV-related issues for patients, their families and partners (Department of Health and Human Services, 1993).

Despite the many positive examples, significant concerns have surfaced regarding the potential for abuse and misuse of computer applications in client-centered services. Paramount is the concern about client confidentiality. Early references to computers in human services showed intense concern that the privacy of the individual is threatened by such systems of data sharing (Alaszewski, 1985). Innovations in the field have assuaged such concerns and resulted in the creation of built-in safeguards to address data protection. The use of identification codes, passwords and garbling of data can easily prevent access to privileged material (Mutschler, 1987). Some have speculated that concerns about confidentiality function as a smokescreen for resistance to accepting computers as a tool for professional practice

(O'Reilly, 1986, p. 291).

The use of various types of technology to promote the goals of the profession has met with opposition from practitioners who question whether they are consistent with the tenets of social work, the helping relationship with clients and its non-routinized nature. For example, Fabricant (1985) exhorts social workers to resist trends that deemphasize social work skills and preserve those elements of craft that are unique hallmarks of the profession (p. 389).

Some studies though have shown the beginnings of a reversal of the trend to denigrate the use of information systems in client-driven services. In two empirical studies of computer and management information system utilization by social workers, pro-computer and pro-research attitudes were found to be less related to actual use of computers than was anticipated (Mutschler & Epstein, 1989, p. 443). In a survey of MSW student attitudes toward computers, Nurius, Richey and Nicoll (1988) also provide compelling information to support this pattern. They note that negativism and technophobia were not apparent in these data and a clear majority of the students anticipated a need to know more about computer utilization on social work practice (p. 65).

Model Curricula for Teaching Information Technology

The response of social work schools to the phenomenon of computerization has been haphazard and weak with a few schools initiating pilot curricula that integrate computer technology (Born, 1987; Flynn, 1990; Green, 1990; Lamb, 1990; Nurius, Richey & Nicoll, 1988). Educators have introduced technological innovations to social work education since the 1970s in a limited fashion. The introduction of computers in human services courses among others represents a positive beginning toward preparing social work students for the work realities they and their employers anticipate. Significant gaps exist in the education and training of social workers to prepare for interacting with information technology. The lack of a coordinated, unified educational response mirrors the disorganized manner in which social work has responded to computerization.

Current research posits the need to include basic management information systems (MIS) courses in the mainstream curricula of social work (Born, 1987; Nurius, Richey & Nicoll, 1988; O'Reilly, 1986; Schoech, 1982) to acquaint students in all concentrations with computers. Students and agencies

alike maintain expectations about using information technology in professional practice. For example, in discussing the evolution of the social work record Kagle surveyed 114 social work agencies and discovered all but four were already using or would soon begin to use a computer to support such functions as office and business management, agency management, and case recording (1993, p. 193). The automation of case records suggests a pressing need to familiarize incoming students and practitioners with computerized record-keeping to respond to requests for documentation in the simplest and cost-efficient means possible.

Teaching Computer Literacy

A major role exists for schools in providing courses on information technology, establishing standards of practice and guiding the development of computers in social work, and various models have been proposed for achieving these goals. One model identifies five objectives for teaching information technology applications to students:

- train students in information technology applications, and not in programming;

- provide broad-based knowledge that graduates can build on to meet the requirements of their employers;
- update curricula periodically so that students' training can be kept current;
- match information technology curricula with the schools' needs based on empirical data;
- incorporate information technology into core courses rather than into a separate technical course (Cnaan, 1989, p. 237).

Others have proposed a model curriculum on computer technology for social work administration that consists of a one-semester voluntary course (Kaye, 1991). That curriculum comprises eight training modules that include theories of decision-making, issues related to macropractice and technical themes and a variety of "hands-on" assignments. The need for training and education in computer technology under the rubric of continuing education exists for practitioners who need to get basic skills or update their knowledge of computer applications. Seminars and workshops should be offered to familiarize social workers with the new and ever-changing technology. Courses on information technology provide students

with the opportunity to obtain what Reinoehl and Muller (1991) term "functional computer literacy", the basic level of ability that enables an individual to use a computer adequately in the performance of his or her occupational roles (p.4).

Diverse Uses of the Computer in Schools of Social Work

The most basic computer application is wordprocessing which is widely used in schools of social work among clerical and professional staff, students and faculty. Many other applications are also used to promote administrative efficiency, teach administrative and clinical applications of computers in social work, to conduct research, and to train students and clients.

Computer-Assisted Instruction (CAI)

Computer-Assisted Instruction (CAI) programs are increasingly utilized in education as teaching tools for social work students and their clients. CAI is used to teach client interviewing skills, social welfare policy, to conduct health risk appraisals, and to create case management simulations, to name a few of the many applications. It has

also been used to teach social welfare policy and computer simulations to explicate models of social policy process (Flynn, 1990a).

CAI is no substitute for face-to-face contact with an instructor but preliminary use suggests its potential as a supplement to current teaching tools. Among the advantages is the individual's ability to move at his or her own pace, the availability of the system at times convenient for the students' use, and the immediate and rapid access to vast amounts of instructional material (Flynn, 1990b, p. 201).

Line level social workers, undergraduate social work students and undergraduate computer science majors were surveyed to obtain a baseline measurement of attitudes toward computers. Predictably, the computer science students scored toward the positive attitudinal response end of the computer while students and professional staff reflected a less than positive attitudinal response (Doelker & Lynette, 1988, p.4). As most research shows, the need to sensitize workers and change attitudes before introducing computer assisted instruction or videodisc education is crucial to optimizing the benefits each has to offer.

Media & Computers: The Emergence of Distance Education

The provision of distance education has emerged as a new and growing trend for schools of social work seeking to reach rural audiences and professional social workers with significant training needs. Distance education occurs when the instructor is in a separate geographic location from the students. Radio communication, satellite transmission and recently a combination of television and computers has been used to link participants through uplink sites with presenters. Such technology is not without unique considerations such as specialized training, need for employee release time and access to taping facilities or studios for the production of videotapes (Blakely, 1992).

Two surveys of graduate social work programs and field work agencies respectively were conducted to determine the level of interest and usage in media and distance education (Leashore & Goodman, 1993). The major findings indicate the following:

> Evaluation of distance education methods demonstrates that test scores are equal between distance and face-to-face classroom instruction, although students prefer face-to-face instruction. Commercially available videotapes, camcorders and TV monitors and VCRs are widely utilized in both continuing education programs in New York City voluntary agencies and in graduate social work programs in the United States.

Leashore and Goodman report that media applications in social work extend beyond the education of professional social workers and human service providers; they also include direct work with clients; research applications and computer assisted information exchange networks (1993, p.3).

Concerns have been raised about appropriate evaluation of distance education models as well as deciding which types of courses are appropriate for such a model (Blakely, 1992).

Information Management in School Practice

Information technology is often cited for efficiently organizing data, assisting in record-keeping, and program management. Staudt and Craft (1992) describe an information management system for school social work practice to collect data on services provided to individual students and to track indirect work such as in-service committee work, classroom

work, and parent education or support groups (p. 37). This program was created with staff participation which eliminated resistance to use the system. It was kept simple and refined periodically based on meetings between staff and the in-house computer consultants.

Computers in Social Science Research

Computers are used frequently in the research sequence of schools of social work to teach students the skills of quantitative research, using the Statistical Package for the Social Sciences (SPSS) and other statistical programs. Recent developments feature software packages for conducting qualitative research. Three such programs, Ethnograph, Martin and GATOR have been compared and while each fulfills the general objective of organizing in-depth descriptions of phenomena, it has been found that the structure of each program does affect analysis results (Walker, 1993). Software packages have also been developed which allow practitioners to implement the single-subject design (Hudson & Nurius, 1991).

Some research models reserve computer instruction for masters and doctoral level classes. Others conclude that computer training should be incorporated into both

undergraduate and graduate research curricula, otherwise its introduction is seen as merely peripheral and nonessential for direct service workers (Lamb, 1990, p. 38).

On the subject of agency-based research applications, Grasso and Epstein (1987) have written at length about BOMIS (Boysville's Integrated Management, Information, Practice Decision Making, Program Evaluation and Applied System), a management information system used to conduct program evaluation and utilization research at an agency serving troubled adolescents. BOMIS' system design is a utilization-driven one that integrates clinical, supervisory, and administrative information but begins with the information needs of the direct service practitioner. Its main goal is to pair relevant use of information technology with more effective applications of research to further enhance practice.

Developments in computers make it easier to conduct research in agency-based practice but the authors make several recommendations to achieve a positive potential: research and evaluation units must attend to structural factors that facilitate this process, and must provide sufficient practice-oriented training to sustain and enhance pro-research

attitudes and utilization behavior (p.447).

As with other innovations, the computer is merely a tool to achieve certain objectives and attending factors must be seriously considered to optimize the benefits of such a tool. Computers can neither supplant human service professionals nor remedy organizational dilemmas. In fact their introduction often highlights agency weaknesses, staff concerns and gaps in service delivery.

The social work literature consistently shows support for the application of computers in professional practice while simultaneously recognizing its inherent limitations (Mutschler, 1987; Mutschler & Hasenfeld, 1986; Schoech, 1987). Support is found for MIS as an administrative tool for social work managers in finance, program evaluation and quality assurance. Increasing attention is being paid to the value of computer programs in clinical work to assist in decision-making, client education, intakes and interviews, games and therapeutic interventions (Meier, 1988; Wark, Kalkman, Grace & Wales, 1991; Sloan, Eldrige & Evenson, 1992).

Computer use in human services has gained more advocates but it must be appropriately integrated with staff needs and service delivery, with the provision of adequate training and

support (Grasso & Epstein, 1987). Application of sophisticated computer technology in a traditionally labor-intensive profession has reaped considerable benefits, yet its negative implications and its limitations are also apparent.

Second Wave Information Technology

Unlike earlier simplified applications, Cwikel and Cnaan (1991) cite the increase in second wave information technology applications such as expert systems, games and therapeutic programs, electronic networks and telecommunication, and advanced (decision-supporting) databases in direct social work practice (p. 14). In a description of the potential uses of expert systems in social work, Gingerich (1990) defines such systems as "rule-based" or "knowledge-based" consultation systems that could potentially improve the quality of decision-making by inexperienced workers; accommodate uncertainty and incomplete information and be utilized as training tools.

As more social workers become involved with an array of computerized systems in diverse settings, there is greater impetus for schools of social work to address the information

technology needs of students, faculty, professional staff and other consumers within the school. Research implies that a significant degree of training and education is necessary to implement computerized systems successfully (Grasso & Epstein, 1987; Mutschler & Hoefer, 1990) within the social work environment. Ideally attempts at education and training should comprise only a part of a comprehensive planning effort.

Planning for Information Technology in the Human Services

The use of computer technology in human services has tended to evolve incrementally rather than develop because of systematic, rational efforts at planning. Despite a lengthy history of planning for social services delivery, computerization is often approached piecemeal with administrators and faculty responding to demands for information technology in a reactive fashion.

The need exists for a comprehensive planning agenda broad enough in scope to address current and projected use of computers at all levels within a school of social work in a manner consistent with the values and ethics of the profession. A systematic assessment of present efforts at computerization and future needs will provide the necessary

information to standardize education, coordinate current efforts, and establish a basis for planning to fit the technology within the school.

Such careful planning and evaluation are essential if one is to avoid the mistakes of the past when introducing computers. Semke and Nurius (1991) stress that at this "second level" of computerization careful analysis of early system models and implementation approaches is required beyond ongoing development and testing of alternatives (p. 354).

Intended new application of knowledge as it will affect meeting unmet need.

The Information Age has ushered in new challenges for the field to integrate computers appropriately within the human services framework, a task that has been simplified due to the proliferation of software programs specifically designed for use in a social service context. Due to the newness of the technology, few systematic efforts to pursue computerization in a school of social work using a planning approach have been undertaken. Such an approach would benefit not only the Hunter College School of Social Work but other schools with similar interests in implementing information technology in a

proactive manner.

This project therefore addresses both the content issues relevant to computers in human services and the inherent design and strategy aspects of the planning process. Attention is directed to key constituencies within the school such as masters students, doctoral students, faculty, professional and clerical staff as consumers of information technology. The project focuses on what the planning process itself generates and such secondary effects will be described and analyzed as a part of this study.

Part of the value of conducting such research lies in the potential for other schools to consider the merits of strategic planning as a methodology for incorporating information technology into school life. It draws from planning models, case studies and the human services literature to generate a methodology to help schools of social work prepare for computerization. A central assumption is that elements such as value tensions, political dynamics, available resources, key actors in sociotechnical change and decision-making, and attitudes toward innovation must be identified and sufficiently explored to construct a management roadmap to guide the computerization process.

Schools are organized differently, some according to sequence, others according to field of practice, and historic elements serve to distinguish one school of social work from another. Despite vast differences in curricula, administration and credentialling, schools of social work maintain many common characteristics. Such knowledge can be used to establish meaningful timeframes, to anticipate the character and type of response to organizational change, to estimate the level of resources both human and financial that are necessary to such an undertaking, to determine appropriate standards of quality control and to assure continuity among schools and other human service information technology consumers. For example, Epstein and Mutschler (1989) identify several organizational factors which contribute to the successful application of computers in the social service environment such as a supportive hierarchical structure, in-service training structures and a reward structure that reinforce computerized information use (p. 443).

Diverse constituents will benefit from this project including program planners, school administrators, students, faculty, computer consultants and ultimately clients as we better understand the process of planning for information

technology in the school social work environment.

Computers in human services is a relatively new and uncharted phenomenon within the social work field. Recognition has been given to computer applications in the practice environment yet program administrators are not likely to consider adopting a planning process to more effectively prepare for information technology in their schools or social programs. More often they rely on outside consultants to perform that function and the process is frequently colored by the consultant's familiarity with or lack of knowledge about various software programs. It also becomes influenced by consultants' knowledge of and appreciation for the nature of the goals, philosophy and work of human service organizations. Shapiro (1991) acknowledges that small, non-profit political and community-based organizations are significantly different from the commercial firms and public agencies that are the main consumers of computer equipment and services (p. 130). Larger agencies and schools of social work are also subject to potential disappointment and miscommunication with consultants given their values stance, budgetary constraints, ability to articulate information technology needs, and lack of uniform support and enthusiasm for computers.

Program planners, school administrators and faculty routinely engage in decision-making regarding computerization at multiple levels yet often are not aware of the process in which they are involved. This project emphasizes computerization as a process and will delineate the phases that are critical to understanding how to plan for using and incorporating technology. Discussion and analysis of the Hunter College School of Social Work planning process have yielded valuable research data that can be mined to assist schools in their own efforts to plan to plan.

Timeliness of the Project

The timeliness of this project is evidenced by the need to acknowledge that computerization is a process and that by treating it as such schools of social work can better anticipate what factors will support or inhibit their efforts to secure an appropriate fit between information technology and the essential work that they do. Strategic planning as a process model allows a school to help consumers in interacting with computers and coping with the many changes that arise as technology comes to live in their world. Though research shows that even workers who are highly critical of computers do come

to use them (Mutschler & Hoefer, 1990), the need to examine and identify planning as a component of computerization is pressing for both supportive and resistant practitioners.

CHAPTER THREE

METHODOLOGY

Introduction

This chapter describes the use of strategic planning/ research methodology for addressing computerization and its attendant issues in a school of social work. It explains the choice to employ a mixed package of research techniques to explore this issue and justifies the particular application of each approach. The chapter describes the goals of the planning process, the data to be collected, action steps to be taken and concepts behind the approach to data collection and analysis. Lastly it describes the sampling plan and provides a brief description of the study setting.

Strategic Planning as a Research-Based Intervention

The approach to this dissertation is based on the notion of a research-based strategic planning intervention to prepare for incorporating information technology into school of social work life. Thus, this study required a systematic review of

the computers in human services literature and of the strategic planning literature. The latter supported the use of a strategic planning approach to researching the issue of computerization in a school of social work.

Some level of computerization exists in many schools of social work but most have fallen short of adapting an organized framework for integrating computers in their institutions for many reasons. Financial considerations are predominantly cited as a major obstacle to full-fledged computerization yet Kaufman exhorts us to change the way we think about education and shift from budget-driven strategies to strategy-driven budgets (1992, p.3).

Why Strategic Planning?

Strategic planning is a process as well as a product. Planning to plan for computerization in a school of social work requires leadership, innovation and a strategy for managing sociotechnical change. The introduction of technology has widespread implications and consequences for all constituents of the school. The choice of strategic planning as a theoretical guide for this organizational change process requires that management will rely on team building, needs

assessment, group decision-making and shared information gathering to successfully achieve the goals and objectives participants have established. According to Bradford and Cohen (1984), strategic planning involves paying attention to four basic tasks:

- building a team in which responsibility for success is equally shared;
- giving attention to the continuous development of team members' individual skills;
- creating consensus for a common organizational vision;
- encouraging staff to integrate strategic planning into all aspects of their daily decision making.

Management gurus and organizational planners maintain a keen interest in the future of information technology in educational institutions noting that communication and the availability of information might be the leveling tools of tomorrow. According to Toffler (1990) the new chasms in society will not be between the rich and poor or the Left and the Right but between the information rich and the information poor. An organized framework for planning for technology will

encourage planners and consumers to consider the potential for such imbalances when making decisions regarding the allocation of equipment, human resources, education and training.

Kaufman (1992) advises planners to identify the **scope** of planning involved - whether micro, macro or mega; to begin a process of **data collection** to arrive at an ideal vision or desired condition; to undergo a **planning process** and then **implement and evaluate** that work. In this study, the scope consists of a graduate school of social work and the planning process rightfully should include members of each cohort within the school; graduate students, doctoral students, faculty, professional and clerical staff. The data collection process should also include a thorough needs assessment that Kaufman (ibid) defines as a process that:

- identifies gaps between current results and desired ones;
- prioritizes the gaps in results (needs) and
- selects the most important needs for closure or reduction.

Strategic planning is a fluid and ongoing process and once problems and conditions in need of change are identified,

the planning group should convene and identify possible remedies to problems. Yet as the environment changes and various dimensions of the problem are affected, it becomes necessary over time to redefine the problem and redesign its potential solutions.

Planning to Plan

Schools of social work like all human service organizations find the need to periodically examine issues concerning organizational change and how effectively the tensions and challenges resulting from such change are being met. The use of planning as a conscious means of attaining goals and objectives aids in the timely achievement of goals and the reduction of costly errors. Small and large agencies alike can benefit from strategic planning which as Boone and Kurtz (1985) define it, is a process by which management sets objectives, assesses the future and develops courses of action.

It is often the identification or statement of a problem that initiates the planning process. Kahn (1969) notes that planning tends to begin because there is a complaint, tension,

disagreement, dissatisfaction, suffering, need for choice or perhaps even a bill enacted by the legislature or some combination of the above which acts as the catalyst.

The Garbage Can Model of organizational choice developed by Cohen, March and Olsen (1972) examines how policy and decision-making often occur within organizations. The authors describe four separate streams running through organizations: problems, solutions, participants, and choice opportunities. The streams enjoy a life of their own within the organization, which according to Cohen, March and Olsen is:

> ...a collection of choices looking for problems, issues and feelings looking for decision situations in which they might be aired, solutions looking for issues to which they might be the answer, and decision makers looking for work (1969).

This model allows for the rational aspects of problem-solving and the political overlay of special interests, timing and current concepts of the public good as they interact within the sphere of policysetting. Using a needs assessment to fully define the problem statement, developing a planning process and sharing the process can prove useful in

proactively addressing planned and unplanned change within organizations. According to Daft and Bradshaw (1980), the process can be improved with a more explicit recognition of the steps involved, with the development of skills and techniques to improve the process, and with the use of specified roles such as the "idea champion".

The planning process acknowledges not only the factual, rational aspects of the problem but the political and at times, irrational dynamics that may hinder an organization's ability to adequately meet a defined need. Various frameworks can be adapted to social planning and the use of problem analysis in the planning context assesses the readiness of the organization or community to deal with the problem and to commit resources to its solution or amelioration (Moroney, 1987).

The primary goal of this project is to construct a viable strategic planning process for meeting the information technology needs within the school of social work setting. Such a strategic planning process includes:

- accessing the literature on planning as well as computers in human service to develop a framework for proceeding;
- surveying and interviewing key individuals and consumers within the school to clarify consumer needs;
- identifying existing political conditions, tensions and constraints and developing a plan for addressing such factors in the planning effort;
- including financial considerations for the present and the future;
- identifying the actors and conditions that were responsible for the existing computer technology in the school to build upon and expand that initiative in the planning process;
- identifying internal and external influences and publics that must be accommodated in planning for information technology;
- analyzing the planning process to identify barriers, potential strengths and weaknesses, limitations, and developing conclusions for implementation based upon the data generated by the planning process.
- documenting the experience of the researcher as planner and practitioner in action and what role that played in

the total process.

As with all planning efforts, obtaining useful data and developing an effective plan for using information technology is dependent upon securing access to significant internal and external publics, key informants and also the primary decision-making bodies. Morris and Binstock (1980) acknowledge that for a planner's goal to be feasible, he must have access to the dominant group and the appropriate means of influencing it (p. 145).

Conducting A Needs Assessment

The use of a needs assessment as part of the systems approach to strategic planning has been touted for years by human resource development professionals. McClelland (1992, p. 52) defines seven essential steps to using a systems approach to needs assessment which are as follows:

1. determine whether to use internal or external resources.
2. define the goals of the assessment.

3. gain management commitment.
4. select the most appropriate methodology.
5. administer and control the assessment.
6. analyze the results.
7. present management with the results and recommendations.

Semke and Nurius (1991) have noted that social work is no longer in the embryonic stages of computing with system developers now designing and creating automated information and accountability systems for the human services (p. 354). The authors stress however that at this "second level" of computerization careful analysis of early system models and implementation approaches is required beyond ongoing development and testing of alternatives (ibid.). They recommend that practice information be examined carefully to find out what aspects if any are appropriate for structuring decisions and what types of structure are most applicable. Further, program goals and objectives should meet the following criteria: be outcome oriented, be realistic, have clarity, identify the client population, have precision, be

positive, and be related to the problem (Taber & Finnegan, 1980).

The strategic planning document will address the following issues:

1. Identify current and potential consumers of information technology within the school of social work setting.
2. Identify participants in the planning process and decide at what times and in what capacity.
3. Develop an approximate timeframe for the planning process including the identification of critical signposts and phases.
4. Assist consumers in quantifying and qualifying their present and future needs for information processing, organization and training.
5. Identify existing manual information processing systems that should be computerized.
6. Identify existing and potential barriers to computerization and develop recommendations for reducing them.
7. Develop action steps within the planning process to share with consumers to adequately prepare them for

implementation.

8. Identify or create policies regarding the roles, goals and responsibilities of staff, administration, faculty, students and in the computerization process.
9. Develop an inventory of existing information technology equipment (e.g., hardware and software) throughout the school.
10. Obtain baseline data on computer use, training and gaps for consumers.
11. Adequately describe and assess the problem.
12. Conduct a literature review to access relevant theories and research about planning for computerization.
13. Assess consumer strengths and skills in the area.
14. Project future needs and demands for information technology in the school.
15. Project future human and financial resources for computerization efforts.
16. Integrate multiple information sources and translate data into a strategic planning document with discrete units and phases.
17. Educate and prepare consumers for the potential uses and pitfalls of information technology use within the school

of social work.

Planning to plan should incorporate not only consumers' information technology needs but the emotional overlay of status and role change; power and influence as a function of computer-literacy; role strain and feelings of obsolescence as the Information Age infiltrates academia and school life. The ripple effects of computerization extend well beyond the immediate impact upon information processing, research and decision-making.

The emotional dynamic for staff experiencing computerization is a critical element that merits scrutiny when planning to plan. Caputo (1989) cautions that no matter how much users embrace new technology, the information specialist and the system itself directly affect the organizational structure of authority and the distribution of the decision making. Planning, education and training components should encompass the socio-emotional context of the work and practice environment as part of the holistic approach to meeting the needs of consumers. Stress and anxiety frequently accompany organizational change, particularly when that change involves technology and possible role displacement

following shifts in power and communication structures. Morgan (1986) observes that many aspects of social and organizational culture and structure serve conscious and unconscious purposes that are invisible to the human eye. This means that they can be changed only if the underlying concerns and preoccupations are modified in some way (p. 229).

In-depth interviews are therefore duly important in uncovering a perspective on the underlying emotional texture of consumers' responses to this imposing organizational and technical change. These must be understood and considered within the planning process if implementation is ultimately going to be successful.

This study examines the roles of all key decision-makers in the planning process who support the initiative to introduce and plan for information technology; who welcome participation from diverse constituents within the school setting; who insure access and foster cooperation between diverse groups and seek funding for incorporating or expanding human resources and technology.

The methodology for this dissertation is contingent on accessing the school's constituents and integrating their perspective into the model. Adequate commitment has been

demonstrated toward providing the necessary institutional and personal supports to enable the data-gathering and analysis critical to the planning phase.

RESEARCH TECHNIQUES

The design of this planning project is predicated on the use of qualitative and quantitative research techniques to describe current information technology use in the school and to project its future needs. When collated and analyzed the data will be used to develop original survey instruments for students and faculty to examine attitudes, usage and educational issues to further refine the planning model for information technology.

Accordingly, this chapter will discuss the following items related to data analysis:

- Concepts for data analysis of the interviews.
- Plan for dealing with the themes that emerge from the in-depth qualitative interviews and open-ended responses on the three survey instruments.
- Statistical analysis of the survey responses.

A Mixed Model of Research Methodologies

The review of the literature provided a frame of reference for developing a strategic planning model for information technology in a school of social work. To create this framework it was necessary to choose a research methodology that was suitable not only for measuring use of and attitudes toward computers but for capturing the essence of the socioemotional context of computerization in the human services. Therefore, a mixed model of research methodologies was selected as most appropriate for researching this problem.

Recent literature indicates that combining the two approaches has produced both practical and innovative research (Epstein, 1988; Patton, 1990). Requiring practitioners to take an either-or stance on the issue is a reductionistic approach to learning and scientific inquiry. Researchers are best advised to familiarize themselves with both techniques and their respective practice potentials and to select research methods based on appropriateness rather than politics.

Rationale for Using Qualitative Research Methods

Qualitative research methods are based on inductive logic, deriving concepts and theory from the social reality being studied (Epstein, 1988). Patton notes that many types of qualitative analysis are used to capture the voices of other people in their own terms and to chart their views about how the world is organized (ibid.). This type of understanding was described as "verstehen" by Max Weber, an intense and realistic effort to understand a situation from the point of view of the actors in it (Greer, 1969).

Such methods are appropriate to understanding the emotional, political and personal aspects of the process of computerization in a school of social work. In-depth interviews with the school's constituents, content analysis of key documents, and observation of students participating in research courses in the computer lab will be useful in eliciting themes relevant to the process, capturing the voices of consumers as they experience information technology, and charting their perspectives on the planning process.

Planning to plan is not limited to the rational dimension of computerization but must include the emotional, non-rational and personal aspects of the process as well. A review

of current research efforts and the literature on computers in human services confirms that the rational, logical approach to computerization has dominated the study of this phenomenon. There is little available data on individuals' feelings and emotions as they participate in the computerization process.

Anticipating and understanding staff, faculty or student value tensions regarding information technology will be a pivotal consideration in developing a plan to institutionalize computers in the school. Abramson concludes that once an informal needs assessment is completed, the program developer should have a good sense of the attitudes and priorities of most of the staff. Further, she notes one must understand what sort of cooperation and resources the proposed program will need to decide who the significant actors will be (1983, p. 181).

Rationale for Using Quantitative Research Methods

Quantitative methods will also be employed using three original instruments as data collection devices to survey masters students, doctoral students and instructional faculty for this dissertation. These methods are based on logical-

positivism, an epistemological theory that mandates that all research propositions must be tested by observation and experiment (Epstein, 1988). Positivistic research methods rely on standardized measures to examine large numbers of people thus producing a broad and generalizable set of results (Patton, 1990).

SAMPLE

Sampling Plan

For the qualitative, semi-structured one-to-one interviews, purposive sampling was used to obtain a sample of doctoral students, faculty, clerical and professional staff. Past and present classes of Doctor of Social Welfare students at the school served as the basis for identifying doctoral students. Professional and clerical staff and the entire instructional faculty were obtained from the site setting. The interview guide was pretested by the author in pilot studies conducted over the past two years in the area of computers in human services. The format was geared to capture interviewee background, experience and emotional response to computerization and to gain insight into their view of how computers fit in social work practice and education. The

questions are broad and open-ended and invite probes and follow-up questions.

INSTRUMENTATION - RESEARCH TOOLS

For the quantitative surveys, all 40 faculty members (instructional faculty only) were surveyed using an original instrument designed to elicit faculty background, past and present computer use and attitudes toward computers and strategic planning as a research methodology. A similar instrument was developed for the sample of second year MSW research students. Four classes of students were selected on the basis of purposive sampling to obtain both "two-year" and one year residency (OYR) second year students in their second semester of second year research courses that require their participation in the school's computer lab. The rationale was to survey students who had already begun the research course that exposes them to computer work on an in-depth basis to capture their attitudes, beliefs and backgrounds on computer use in social work practice and education. This also provided the researcher with the opportunity for participant observation while the students attended lectures on computerized statistical programs in the lab.

Data Collection and Data Analysis

Data for this study were obtained from two primary sources: 1) 19 semi-structured, in-depth interviews with social work doctoral students, faculty, professional and clerical staff; and 2) surveys completed by 48 master of social work (MSW) students, 11 Doctor of Social Welfare (DSW) students and 28 full-time instructional faculty. Each of these groups completed a six-page anonymous and confidential survey.

The qualitative in-depth interviews were tape recorded and then transcribed using WordPerfect 5.0 and later WordPerfect 6.0 for Windows. These transcriptions were analyzed using The Ethnograph, Version 3.0, a program for the computer assisted analysis of text based data.

The quantitative (survey) data was coded and organized using DBase 4.0 and statistically analyzed using SPSS PC, Statistical Package for the Social Sciences.

Institutional Approval and Support

This project was approved by the City University of New York's Institutional Review Board. The activities of the study also received the sanction and support of the Dean of

the Hunter College School of Social Work. His repeated calls for cooperation and support enabled this researcher full access to faculty, students and staff for both formal and informal communication. With the tone of support having been established with the executive administrator of the school, it became easier to establish meeting dates, interview schedules and obtain approval for administering quantitative surveys.

The nineteen semi-structured qualitative interviews were conducted over a period of seven months from spring to fall, 1993. Faculty and professional staff interviews were conducted at the school of social work at the convenience of each interviewee, usually in their office. Working doctoral students were interviewed at their respective places of employment which made it easier to see them despite their hectic work schedules. Interviewing students at their work sites added to the relaxed nature of these interviews since students were on their own turf. An interview schedule was developed to keep track of the interviews by date, respondent and the category each participant fell into.

The quantitative surveys were administered to faculty and masters and doctoral students in spring of 1994. Research faculty had met and given permission to administer the

questionnaires outside class time and faculty were apprised of the study overall early in the school year at a faculty meeting.

Observations and Field Notes

Some research professors whose students I surveyed invited me to observe masters level research students in the computer lab to broaden my understanding of their experience. To organize my impressions and perceptions, I kept logged field notes of my observations and any conversations that occurred. When interesting and relevant dialogue occurred, I noted it in narrative form in my log book. As the project became more refined, these notes were more focussed in terms of which categories they belonged to and what issues they represented.

The Setting

The site for this research project is Hunter College School of Social Work, an accredited school of social work in New York City. The program was begun in 1958 and subsequent additions to the basic program included the One Year Residence Program, the Doctor of Social Welfare Program and continuing

education division. The school enjoys a multitude of private and public agency settings for its field placements, prides itself on a diverse faculty and student body and is housed in its own building on the Upper East Side. Recently three floors were added to that building including an Information Processing Center (computer lab) that provides room for hands-on training of students and faculty. The school's student body now constitutes over 600 persons and the school also conducts adjunct activities such as continuing education and alumni affairs, including a job bank. The building is self sufficient, containing lecture halls, seminar rooms, faculty offices, study areas, the computer lab as mentioned, administrative offices and a two-level library containing 50,000 volumes.

Conclusion

In this chapter, I have presented the methods used in this mixed model study of planning for the introduction of computers in a school of social work. I have described the advantages and rationales for using qualitative and quantitative research methods and also the rationale for using strategic planning itself as a research methodology. A

description of the data collection and analysis plan was presented besides the sampling methods. Finally, I described the process of obtaining institutional approval and support to proceed with this study.

The process of using a mixed package of methodologies in this study achieved several goals. It allowed the researcher to query a broad quotient of the school's computing constituents through the surveys and provided access to a wealth of data related to planning for computerization. The semi-structured interviews filled many gaps about the computerization process. The interviews encouraged participants to collaborate in the research and planning process and promoted their active and voluntary participation in constructing a meaningful strategic planning model.

CHAPTER FOUR

Faculty, Masters Students and Doctoral Students Respond to Strategic Planning for Computerization

Introduction

Staff, students and faculty are all participants and consumers when a school decides to introduce computers, whether it's a formalized planning process or not. Computerization is usually conducted on a top-down basis with administrators and managers conducting most of the decision-making, such as the purchase of equipment and establishment of timetables for implementation. In this investigation, the very act of surveying and interviewing these consumers serves as a part of the strategic planning process; it gathers information from the bottom-up, from the consumers themselves and it also clues them in to the fact that such a process is underway. It provides a forum for their voices and an outlet for their concerns.

Data collection for developing a strategic planning approach for computerization was achieved using three original survey instruments and conducting in-depth semi-structured

interviews to assess current and future computer use at Hunter College School of Social Work (HCSSW). The research findings are therefore organized as follows:

Chapter Four contains data analysis of the quantitative aspect of this research design. It describes the findings from the surveys administered to HCSSW doctoral students, masters students and faculty respectively.

Chapter Five contains data analysis of the qualitative portion of this study. It discusses the findings of 19 in-depth semi-structured interviews carried out as part of a needs assessment and planning process within the school. The themes that emerged from these interviews are explored and interpreted in this chapter.

Finally, Chapter Six presents the results in general, combining the literature review, outcomes from this study and input from consumers to produce the strategic planning model for meeting the computer needs of schools of social work.

The following table (Table I) illustrates the type and number of individuals who were surveyed and who participated in this part of the strategic planning process.

TABLE I

Quantitative Data Analysis

Survey Distribution and Response

Questionnaire type	Total Administered	Number Respondents	Percent Responding
DSW Students	15	11	73%
Faculty	40	28	70%
MSW Students	60	47	78%

THE DOCTORAL STUDENTS

The doctoral students are numerically one of the smaller constituents within the school. Each year a class of 15 (fifteen) doctor of social welfare students is launched and though their numbers are relatively small, the doctoral students' opinions are crucial to this planning process as they represent the future educators, researchers, consultants and leaders in the field.

Of the 15 doctoral students who received the survey, 11 (73%) responded. Those students who responded showed general acceptance of and interest in computers. They each agreed that

they and their colleagues are less resistant to computers today as compared with five years ago. They also showed an interest in learning more about computers and unanimously supported the idea of using strategic planning to meet the computer needs of the school.

Doctoral Students' Background Information

Several questionnaire items addressed the students' educational background and areas of practice expertise. These students received their bachelor degrees between 1962 and 1983 and received their masters degrees between 1965 and 1991. The students ranged in age from 33-52 and the mean age was 43. Students indicated the following areas of teaching and practice expertise: (See Table II on the following page.)

TABLE II

Doctoral Students Areas of Teaching and Practice Expertise

Administration	7
Casework	5
Family Services	5
Group Work	5
Policy	5
Child Welfare	4
Research	4
Substance Abuse	4
Community Organization	3
Mental Health	2
Aging	1
Developmentally Disabled	1
Health	1
School-Based	1

Past Computer Use

The survey asked doctoral students whether they had used computers during their graduate education and if so, which applications had they used. Only three (27%) doctoral students used a computer during their graduate education. Of those three, all used wordprocessing, two used a statistical program, one used a database system, and one used on-line services.

Current Computer Use

As part of the needs assessment portion of this strategic planning model, students and faculty were asked about their present use of computers - where they use computers, which applications they are comfortable with using, and which applications they would like to be able to use in the future.

When asked where they now use computers, 10 (91%) doctoral students said they use them at home, six (55%) use them at their agency, four (36%) use them at the Hunter College School of Social Work Lab, and one (9%) uses the computers at Hunter College at 68th Street. Doctoral students were asked to describe all the types of computers they now use. Six (55%) use IBMs or IBM compatibles, four (36%) use MACs, 3 (27%) use laptops, 2 (18%) use a mainframe, 2 (18%) use modems, and one (9%) does not use computers at all.

Doctoral students were then asked to identify which computer applications they can use now and which computer applications they would like to be able to use in the future. The following table (Table III) summarizes their responses.

TABLE III

DOCTORAL STUDENTS' CURRENT AND POTENTIAL USE OF COMPUTERS

(N=15)

	CURRENTLY USE	PERCENT (%)	WOULD LIKE TO USE IN FUTURE	PERCENT (%)
APPLICATION TYPE				
Wordprocessing	11	100%	0	0%
Spreadsheets	2	18%	5	45%
Literature Review	8	73%	2	18%
Databases	8	73%	1	9%
Statistical Pkgs.	5	45%	3	27%
Qualitative Pkgs.	2	18%	7	64%
Tutorial Programs	2	18%	2	18%
Video Interactive	1	9%	5	45%
Games & Simulations	4	36%	1	9%
Desktop Publishing	3	27%	4	36%
Email/Communication	3	27%	6	55%
Clinical Software	2	18%	2	18%
Programming Languages	0	0%	6	55%

All but one of the students (91%) use a wordprocessor. Not surprisingly, 8 (73%) of the 11 respondents can use the computer to conduct a literature review which is a required assignment for all first year doctoral students. Eight (73%) of the 11 can also use database programs. Students indicated interest in learning a variety of computer applications as shown above, with the greatest number, 7 (64%), displaying an

interest in learning applications to conduct qualitative research, most likely concerning their doctoral research. Six (55%) students also showed an interest in learning to use e-mail and programming languages.

Impressions and Perceptions about the Computer

The needs assessment not only gathers information on students' current and projected use of computers but attempts to capture their attitudes on computer use in social work practice and education. Students rated several statements regarding the use of computers in social work and in social work education according to a five-point Likert scale. All 11 students agreed that students are now less resistant to computers than five years ago. Also, the students unanimously agreed that students are at an advantage if they are familiar with computer applications in human services. Nine (82%) students disagreed with the statement that computers exert a dehumanizing effect on social service delivery with two (18%) students responding neutral.

Training and Education in Computers in Human Services

The literature discusses at length models of curricula and philosophies underpinning approaches to teaching computers in human services. This project surveyed students and faculty to obtain their perspective on training, education, support and the use of consultants in this area. The doctoral students responded to these questions in the following manner: Ten (91%) of the 11 students would like to know more about how computers can help them as social workers. Ten (91%) students also believed a course on computers in human services would benefit students. Eight (73%) of the 11 disagreed that students have adequate opportunities for learning about computer use in human services.

When asked if they are comfortable using the computer system in the library, 9 (82%) of the doctoral students agreed, 1 (9%) student was neutral and 1 (9%) student disagreed. Each of the 11 students strongly disagreed with the statement, "Computers have no place in social work education.". See Table X on page 118 for a comparison of masters students', doctoral students' and faculty's responses to the need for education and training in computers in human services.

Potential Benefits from Computers

Doctoral students were asked several questions regarding computer applications in social work practice, in social work education and in administration of the school of social work.

When asked if they anticipate a need to know about computers in the future, 10 (91%) agreed and 1 (9%) was neutral. Students were asked if computerized client records would help to manage client information more easily and efficiently. Nine (82%) of the doctoral students agreed, 1 (9%) was neutral and 1 (9%) disagreed. When asked whether they felt it would be difficult to conduct social work research using a computer, nine (82%) disagreed and 1 (9%) strongly agreed.

Planning for Computers in the School of Social Work

The last section of the survey required doctoral students to rate statements regarding the planning aspect of computerization in a school of social work. It examined their attitudes toward strategic planning itself, their willingness to participate in the strategic planning process, who they felt should be represented in that process, and what issues need to be a part of planning to plan. The students rated

these statements according to a five-point Likert scale.

Strategic Planning as a Research Methodology for Addressing Computerization

The doctoral students gave unanimous support to the statement, "Strategic planning will assist the school in preparing for computerization.". Students also agreed with the need for both student and faculty participation in the planning process. Asked whether the school would benefit from a committee to plan for and oversee computer applications, 10 (91%) agreed and 1 (9%) was neutral.

Participation in Strategic Planning

The doctoral students demonstrated general acceptance of strategic planning as a methodology for addressing computerization in the school of social work. They were divided though in their willingness to participate in such a process. In terms of participating in a computer planning committee, three students (27%) strongly disagreed, 3 students (27%) were neutral, 3 (27%) agreed and two (18%) strongly agreed. However each of the doctoral students agreed that such a committee should delve into the potential problems

computers can generate for the school's constituents. Five (45%) of the students felt the need to know more about computers in order to be part of a strategic planning process, four (36%) were neutral and 3 (27%) disagreed. See Table XI for a comparison of masters students', doctoral students' and faculty's responses regarding the use of strategic planning as a research methodology.

Training and Consulting as Part of the Planning Process

A majority of doctoral students surveyed 9 (82%) indicated that faculty need more training to fully understand the potential for computers for themselves, for students and for the school. Ten students (91%) preferred to receive computer training onsite at the school of social work, as opposed to Hunter College at 68th Street or other locations. Asked if they have adequate time for training on a computer, four (36%) students agreed, four (36%) were neutral and 3 (27%) disagreed. Support for the ongoing services of a computer consultant was given by 8 students (73%) while 3 (27%) remained neutral on the issue.

Living in "The Information Age"

Given the current emphasis on information and communications, students were asked to respond to several questions on this topic. Students obviously need to communicate with the school and its officials as consumers of education beyond their needs for information and resources as graduate students. Eight (73%) agreed with the need to improve the system for promptly distributing information both inside and outside the school of social work. Further, 9 (82%) supported creation of a computerized information system to help with dissemination of information, such as e-mail or an electronic bulletin board message system. Six (55%) of the doctoral students would be willing to join a computer users group for information and support while 4 (36%) were neutral and 1 (9%) disagreed.

Enhancing Computers for Persons with Disabilities

The doctoral students were asked if the school of social work should enhance its computer equipment to make it effective for computer users with disabilities. Nine (82%) of the respondents agreed computers at the school need to be enhanced so that persons with disabilities can use them

effectively. Doctoral students were also asked to indicate if they themselves had any type of disability. One (9%) student responded that he/she has a vision based learning and reading disability.

THE MASTERS STUDENTS

Masters students typically represent the largest group of constituents within a graduate school of social work. Most of the administrative, teaching and support functions of the school revolve around meeting their needs in a multitude of ways. In this school the masters students fall into two main groups, two year degree students and One Year Residency (OYR) students who are already employed in the field of social work. This section of findings reports the data that emerged from a survey of sixty second-year MSW students enrolled in second-semester research courses who were given the survey to complete.

Of the sixty students surveyed, forty-eight (80%) responded. The masters students currently use a variety of computer applications (see Table V on page 92) and show interest in learning additional applications. Most of the students (96%) believe computers have a place in social work

education and practice. They also conveyed support for the strategic planning process for meeting the school's computerization needs.

Masters Students Background and Areas of Study

This group of students received their bachelor degrees between 1967 and 1992. Thirty-five (74%) of the respondents received their bachelor degree after 1980, which is noteworthy in that computers were being used more on college campuses and had become cheaper and easier to use.

The majority of students are casework majors (52%), with 15 administration majors (31%), 6 group work majors (13%) and 3 community organization majors (4%). A total of 617 MSW matriculated students were enrolled at the school during the period that this data was gathered. Therefore, this sample population of 48 students represents 8% of the total MSW student population at the school. Table IV on the following page groups the students according to their field of practice:

TABLE IV

Masters Students by Field of Practice

N = 48

FIELD OF PRACTICE	FREQUENCY	PERCENT
Family, Youth, Adult	25	52%
Education & Community Development	9	19%
Social Health	7	15%
Protection	1	2%
World of Work	1	2%
Unknown	5	10%

Past Computer Use

Students were asked to describe if and how they used computers during their undergraduate education. Unlike the sample of doctoral students, 34 (71%) of the masters students had previously used computers while 14 (30%) had not. Of those who used computers, 33 (69%) used wordprocessing, 16 (33%) used on-line services, 5 (10%) used database programs, 4 (8%) used spreadsheets, and 3 (6%) used statistics programs.

Current Computer Use

Nearly half (46%) of the masters students use computers at their agency and 33 (69%) use them at home. Nineteen (40%) of the students use the HCSSW computer lab and 10 (21%) use the computers at 68th Street. Most of the students (77%) use IBMs or IBM compatibles with 13 (27%) using MACs. Five students (10%) use mainframes, 4 (8%) use laptops, 3 (6%) use modems, and 1 (2%) uses multimedia.

Table V on the following page shows which computer applications the masters students can use now and which ones they would like to be able to use in the future. For a comparison of faculty, MSW students' and doctoral students' current use of computers, see Table XII on page 120.

TABLE V

MASTERS' STUDENTS CURRENT AND POTENTIAL USE OF COMPUTERS

N = 48

	CURRENTLY USE	PERCENT (%)	WOULD LIKE TO USE IN FUTURE	PERCENT (%)
APPLICATION TYPE				
Wordprocessing	44	92%	4	8%
Spreadsheets	12	25%	20	42%
Literature Review	26	54%	14	29%
Databases	15	31%	21	44%
Statistical Pkgs.	0	0%	29	60%
Qualitative Pkgs.	1	2%	27	56%
Tutorial Programs	11	23%	12	25%
Video Interactive	3	6%	22	49%
Games & Simulations	14	30%	11	23%
Desktop Publishing	11	23%	19	40%
Email/Communication	10	21%	19	40%
Clinical Software	0	0%	25	52%
Programming Languages	4	8%	17	35%

Almost all (92%) of these masters students use wordprocessing programs and the remaining 4 (8%) would like to use them in the future. More than half of the sample (54%) can use literature review applications (on-line access), 31% can use database systems and 30% can use games and simulations. Approximately one fourth of the students can use spreadsheets, desktop publishing and e-mail. Fifty-two percent

of these students are casework majors and none of them are familiar with clinical social work computer applications although more than half (52%) would like to learn. Few of the students currently use computerized research applications but 29 (60%) would like to be able to use statistical packages and 27 (56%) would like to learn qualitative research applications. For a comparison of computer usage among masters students, doctoral students and faculty please see Table X on page 118.

Impressions and Perceptions about the Computer

The masters students rated several statements regarding the use of computers in social work and in social work education according to a five-point Likert scale. The majority (96%) agreed that students are at an advantage if they are familiar with computer applications in human services. Thirty (63%) of the students disagreed with the statement that computers exert a dehumanizing effect on social service delivery and 7 (15%) agreed.

Training and Education in Computers in Human Services

The masters students responded to the questions regarding computer training and education as follows: 45 (94%) would like to know more about how computers can help them as social workers. Of the 48 students surveyed, 33 (69%) believed a course on computers in human services would benefit students, 12 (25%) were neutral and 3 (6%) disagreed. Thirty-two (67%) disagreed that students have adequate opportunities for learning about computer use in human services, 12 (25%) were neutral and 4 (8%) agreed. When asked if they are comfortable using the computer system in the library, 32 (67%) of the masters students agreed, 5 (10%) students were neutral and 11 (23%) students disagreed. Like the doctoral students, 46 (96%) of the masters students disagreed with the statement, "Computers have no place in social work education.".

Potential Benefits from Computers

The masters students were asked several questions regarding computer applications in social work practice, in social work education and in administration of the school of social work. When asked if they anticipate a need to know

about computers in their future practice, 41 (85%) agreed, 6 (13%) were neutral and 1 (2%) disagreed. Responding to the statement, "Student records, academic information, alumni and field work data should be fully computerized, 38 (79%) students agreed, 7 (15%) were neutral and 3 (6%) disagreed.

Students were asked if computerized client records would help to manage client information more easily and efficiently. Thirty-five (73%) students agreed, 8 (17%) were neutral and 5 (10%) disagreed. Students were asked whether they felt it would be difficult to conduct social work research using a computer. Only 7 (15%) agreed while 35 (73%) disagreed.

Planning for Computers in the School of Social Work

The final portion of the survey asked students to rate statements regarding the planning aspect of computerization in a school of social work based on a five-point Likert scale.

Strategic Planning as a Research Methodology for Addressing Computerization

Forty-seven (98%) of the 48 students responded positively to the statement, "Strategic planning will assist the school in preparing for computerization.". Students agreed with the

need for both student and faculty participation in the planning process. Asked whether the school would benefit from a committee to plan for and oversee computer applications, 38 (79%) agreed and 10 (21%) were neutral.

Participation in Strategic Planning

The masters students were largely supportive of strategic planning as a methodology for handling computerization in the school. A minority, 11 (23%) were willing to participate in the process with 17 (35%) unwilling and 20 (42%) neutral. Most of the masters students, 40 (83%) agreed that such a committee should address the potential problems computers can generate for the school and its constituents. Thirty-two (67%) felt the need to know more about computers to be part of a strategic planning process, 11 (23%) were neutral and (11%) disagreed.

Training and Consulting as Part of the Planning Process

As with the doctoral students, the majority of masters students, 41 (85%) felt that faculty need more training to fully understand the potential for computers for themselves, for students and for the school. Thirty-eight students (89%)

preferred to receive computer training onsite at the school of social work, as opposed to Hunter College at 68th Street or other locations. Asked if they have adequate time for training on a computer, 24 (50%) students agreed, 12 (25%) were neutral and 12 (25%) disagreed. Support for the services of a computer consultant was given by 39 students (81%) while 8 (17%) remained neutral and 1 (2%) disagreed.

Living in "The Information Age"

Like most of the school's constituents, masters students frequently need to communicate with the school, its staff and officials and give or receive information about courses, grades, financial data, etc. Several questions address the issue of communication, if it needs improvement and whether computerization might play a role in improving communication.

Thirty-two (67%) agreed that the system for promptly distributing information both inside and outside the school of social work needs to be improved; 14 (29%) were neutral and 2 (4%) disagreed. Further, 36 (75%) supported creation of a computerized information system to help with dissemination of information, such as e-mail or an electronic bulletin board message system. The masters students were divided between

those who were willing to join a computer users group for information and support: 23 (48%) agreed, 13 (27%) were neutral and 12 (25%) disagreed.

Enhancing Computers for Persons with Disabilities

Two (4%) students responded that they have a disability, one is depressed and has a learning disability; the second is recovering from major hip surgery. Thirty-three (69%) of the respondents agreed computers at the school need to be enhanced so that persons with disabilities can use them effectively although 13 (27%) of the students were neutral and 1 (2%) strongly disagreed.

THE FACULTY

A key group in the school of social work, the instructional faculty were surveyed in their entirety to obtain data on their computer use, both past and present, and to develop a portrait of faculty attitudes towards strategic planning for computer use in teaching and practice. Though not having received as much attention as students, faculty nonetheless feature prominently in the social work literature which discusses their use of computers, resistance to

computerization, and their potential to enlighten students about computer applications that are relevant to contemporary social work practice.

Faculty represent a core constituency in the strategic planning process in terms of providing ideas, participating in decision-making, and serving as a link between the school administration and students.

Of the 40 full-time instructional faculty who received this survey, 28 (70%) responded. Their responses are delineated in the following section.

Faculty Background and Expertise

Faculty were asked to identify their rank: 13 (45%) are full professors, 9 (31%) are associate professors, 4 (14%) are assistant professors and 1 (3%) is an instructor. Table VI on the following page illustrates the areas of teaching and practice experience among this group of faculty.

TABLE VI

Faculty Teaching and Practice Experience

FIELD	FREQUENCY	PERCENT
Casework	13	45%
Mental Health	10	35%
Policy	8	28%
Research	8	28%
Administration	7	24%
Family Services	7	24%
Child Welfare	5	17%
Health	5	17%
Substance Abuse	5	17%
Aging	4	14%
Criminal Justice	2	7%
Developmentally Disabled	2	7%
School-Based	2	7%
Occupational	1	3%

Faculty Educational Background

Faculty were asked to indicate the highest educational degree they had obtained. Of the 27 faculty members who responded to this question, 17 (59%) have a DSW degree, 10 (35%) have a PhD and one (4%) did not respond. Faculty obtained their doctorates between 1966 and 1994 with over 50% having obtained their degrees between the years 1978 and 1985. Degrees were obtained from the following schools: (Please see

Table VII below.)

TABLE VII

Schools Where Faculty Obtained Their Doctorates

N = 28

SCHOOL	FREQUENCY	PERCENT
Columbia University	8	27%
City University of NY	7	24%
University of Michigan	4	14%
Yeshiva University	3	10%
University of Wisconsin-Milwaukee	2	7%
Ohio State University	1	3%
Syracuse University	1	3%
University of Virginia	1	3%
Unknown	1	3%

Past Use of Computers: Faculty Use of Computers in Completing Their Doctorates

Faculty were asked if they or someone else used a computer in completing their doctorate. Twenty (70%) said yes, 6 (21%) said no, and two (7%) didn't answer. The table below reveals who used computer applications in completing faculty

doctoral research. Most used the computer applications themselves (38% for quantitative data analysis) while relatively smaller percentages relied upon either a faculty consultant or another type of consultant.

The largest group, 38% used the computer to perform quantitative data analysis and 35% used a statistical package such as SPSS. Thirty-one percent of the faculty used a wordprocessing program and 28% created a database to organize their data. Twenty-one percent used on-line services to conduct a literature search and 17% used the computer to carry out qualitative data analysis. (See Table VIII on the following page for faculty use of computers in completing their doctorates.)

TABLE VIII

FACULTY USE OF COMPUTER IN COMPLETING DOCTORATES

Application	COMPUTER USER		
	Self	Faculty	Consultant
Quantitative data analysis	38%	3%	10%
Statistics (SPSS)	35%	7%	10%
Wordprocessing	31%	0%	3%
Create a database	28%	0%	7%
On-line services, e.g. literature search	21%	10%	3%
Qualitative data analysis	17%	0%	0%

Current Computer Use

As with the doctoral and masters students, faculty were asked to describe the type of computers they now use, which applications they can now use and where they use computers. Of the 28 full-time instructional faculty members who participated in this survey, 26 (93%) now use computers, and

2 (7%) do not.

Type of Computers Used by Faculty

Eighteen (64%) use IBMs or IBM compatibles, 9 (32%) use a laptop, 8 (29%) use MACs, none use a mainframe, 5 (18%) use a modem, and none (0%) use multimedia.

Where Faculty Use Computers

Twenty-five (89%) of the faculty use computers at home, 13 (46%) use them in the office (although not all offices are equipped with computers), 7 (25%) use the HCSSW Computer Lab, and 1 (4%) uses the computer facilities at Hunter College at 68th Street.

Faculty indicated which computer applications they now use and which they would like to be able to use in the future. The results are as follows: Nearly all the faculty (96%) who responded now use wordprocessing programs of one sort or another. This finding is consistent with other studies of educators within schools of social work (Caputo & Cnaan, 1990).

More than half the respondents (52%) can use the computer to perform a literature search and 10 (35%) can use database

management systems and statistical packages respectively. According to a study by Caputo and Cnaan (1990) over 60% of all social work faculty report using computerized statistical programs.

Another 8 (29%) can use computerized qualitative research programs (such as The Ethnograph) and five (18%) can use tutorial programs. The rest of the results are summarized in Table IX on the following page. Faculty are most interested in being able to use desktop publishing and e-mail communication, in addition to spreadsheets, clinical software and programming languages.

TABLE IX

FACULTY'S CURRENT AND POTENTIAL USE OF COMPUTERS

N = 28

	CURRENTLY USE	PERCENT (%)	WOULD LIKE TO USE IN FUTURE	PERCENT (%)
APPLICATION TYPE				
Wordprocessing	27	96%	1	4%
Spreadsheets	4	14%	17	61%
Literature Review	15	54%	11	39%
Databases	10	36%	13	46%
Statistical Pkgs.	10	36%	13	46%
Qualitative Pkgs.	8	29%	12	43%
Tutorial Programs	5	18%	13	46%
Video Interactive	1	4%	15	54%
Games & Simulations	2	7%	13	46%
Desktop Publishing	1	4%	20	71%
Email/Communication	3	11%	20	71%
Clinical Software	3	11%	17	61%
Programming Languages	0	0%	17	61%

Impressions and Perceptions about the Computer

As with masters and doctoral students, faculty were asked to indicate their attitudes on statements regarding the role of the computer in social work practice and education, faculty and student access to computers, and the inclusion of courses on computers in human services. Twenty-six (93%) of the 28 respondents agreed that students are at an advantage if they

know about computer applications for human services and 2 (7%) faculty were neutral. Twenty-four (86%) are willing to teach themselves new computer applications, 2 (7%) are neutral and 2 (7%) disagree.

When asked to rate the statement, "Faculty are less resistant now to computers than five years ago.", 21 (75%) agreed, 5 (18%) were neutral and 2 (7%) disagreed. Fifteen (54%) faculty members agreed computers need to be more user-friendly before faculty and students can be expected to use them, 7 (25%) were neutral and 6 (21%) disagreed. Twenty-two (79%) disagree that technology exerts a dehumanizing effect on social service delivery, 3 (11%) were neutral, 4 (14%) agreed.

Access to Computers and Information

Faculty were asked if they need information that is currently hard to access from manual systems. Fourteen (50%) agreed, 8 (29%) were neutral and 4 (14%) disagreed. Fourteen (50%) agreed that they are comfortable using the computer system in the library, 5 (18%) were neutral and 8 (29%) disagreed. Twenty-three (82%) of faculty agreed that it would help them to have a computer in their office, 4 (14%) were neutral and 1 (4%) disagreed.

All the faculty surveyed agreed that student records, academic information, alumni and field work data should be fully computerized. Asked whether computerization will help reduce the labor-intensive nature of their work, 26 (93%) agreed and 2 (7%) disagreed. Eighteen (64%) agreed faculty should be compensated for time spent learning and teaching about computers, 5 (18%) were neutral and 5 (18%) disagreed.

Training and Education in Computers in Human Services

Faculty were asked to respond to the statement, "Computers have no place in social work education.". The majority (96%) disagreed and 1 (4%) strongly agreed. Twenty-five (89%) would like to know more about how computers can help them as faculty members and two (7%) were neutral. Another 25 (89%) agreed that a course on computers in human services would benefit students and 3 (11%) were neutral. Asked whether the computer can be adapted to meet faculty needs as social work educators, twenty-five (89%) agreed and 3 (11%) were neutral. Asked if faculty have adequate opportunities for learning about computers in human services, 24 (86%) disagreed, 2 (7%) agreed and 2 (7%) were neutral.

Faculty were asked to respond to the statement,

"Computers will not replace educators in the teaching process." Twenty-six (93%) agreed and two (7%) disagreed. Responding to the statement, "I am comfortable talking to students about how computer applications can be used in social work." faculty responded as follows: 14 (50%) agreed, 10 (36%) disagreed and 4 (14%) were neutral. Twenty-two (79%) of the faculty would like to communicate with other faculty members using the computer, 4 (14%) were neutral and 1 (3%) disagreed.

Future Use of Computer Applications

The faculty unanimously agreed with the statement that social service agencies will rely increasingly on computers in the coming years. Asked if students anticipate a need to know about computers in their practice, 12 (43%) agreed, 9 (32%) were neutral and 7 (25%) disagreed.

Planning for Computers in the School of Social Work

As with any organized effort in an institution, key decision-makers and actors must be involved and committed for a project to take hold. Faculty were asked to respond to the use of strategic planning/research methodology for meeting information needs in the school. They were also asked to

respond to numerous questions about who should participate in the planning process, which issues that process should address, and potential barriers to successful planning.

Strategic Planning:

A Research Methodology for Addressing Computerization

Sixteen (57%) of the respondents agree with using strategic planning to address this problem, 7 (25%) were neutral and 5 (17%) disagreed. Nearly all (96%) agreed with the need for faculty input in the strategic planning process and 1 (3%) faculty member was neutral. Twenty (71%) agreed with the need for student input, 7 (25%) were neutral and 1 (3%) disagreed.

Participants in Strategic Planning

Thirteen (46%) of faculty agreed with the need to know more about what computers can do in order to be part of a strategic planning process, 7 (25%) were neutral and 8 (29%) disagreed. Each of the 28 respondents agreed that faculty need more training to fully understand the potential for computers for themselves, for students and for the school. Twenty-six (93%) agreed that the school will benefit from a

committee to plan for and oversee computer applications, 1 (3%) was neutral and 1 (3%) disagreed. Like the students 13 (46%) agreed to participate in such a committee, 6 (21%) were neutral and 9 (32%) disagreed. Twenty-two (79%) felt that such a committee should address the potential problems computers can generate for the school, 4 (14%) were neutral and 2 (7%) disagreed.

Training and Consulting as Part of the Planning Process

More than the masters students, 100% of the faculty agreed they need more training to fully understand the potential of computers for themselves and the school. Nearly all (96%) prefer to receive such training on-site. Nineteen (68%) disagreed that the current training opportunities at 68th St. are adequate, 7 (25%) were neutral and 2 (7%) didn't respond. Twenty-seven (96%) agreed that the school could benefit from the services of a computer consultant and 1 (4%) strongly disagreed.

Living in "The Information Age"

As with other school constituents, faculty are responsible for exchanging copious amounts of information,

including bibliographies, course assignments, grades, evaluations, etc. And like other schools of social work, the school has been labelled as "labor-intensive". Therefore faculty were asked whether computers would help address the communication issue. They responded as follows:

Twenty-two (79%) agreed that the system for disseminating information needs to be improved and 6 (21%) were neutral. Twenty-five (89%) agreed that a computerized information system would help to improve that system, two (7%) strongly disagreed and 1 (4%) was neutral.

Asked if they would join a computer users group for support, 15 (54%) agreed, 8 (29%) were neutral and 5 (18%) disagreed.

Enhancing Computer for Persons with Disabilities

None of the faculty indicated that they now have a disability of any kind. In terms of planning adequately for students, faculty or staff with a disability, 23 (82%) agreed, 4 (14%) were neutral and 1 (4%) chose not to respond.

COMPARING RESULTS FROM THE THREE SURVEYS

Significant amounts of data were gleaned from the three quantitative surveys. This section compares and contrasts key findings from the surveys. The tables that follow contain comparisons between these three groups in key areas: use of computers, interest in training and education, response to strategic planning and help summarize the foregoing data.

In addition to providing simple descriptive statistics, crosstabulations were run to determine if there were significant differences among the responses of doctoral students, masters students and faculty to their current and future use of specific computer applications. Crosstabulations were performed on the following variables: Current and future use of

1) wordprocessing programs;
2) E-mail & communications;
3) statistical programs;
4) computerized literature searches;
5) qualitative research packages;
6) clinical applications and
7) desktop publishing programs.

Of these, the following variables were shown to be of

significance: statistics, qualitative research, and clinical applications. As previously discussed, the sample sizes contained herein are relatively small and therefore these findings are limited in terms of their generalizeability.

Current and Future Use of Statistical Programs

Of greatest significance is the fact that the masters students do not use statistical programs presently while faculty and doctoral students are currently using such programs. Twenty-nine of the forty-eight masters students surveyed would like to use statistical applications in the future however and over 50% of the faculty surveyed also indicated interest in learning statistical packages. Table XIII on page 121 contains these findings. Of note, the survey was conducted at the beginning of the masters students second semester research course when their introduction to statistics had just begun. Their interest though in learning such applications has relevance in planning and developing a curriculum for computers in human services at the school. Teaching statistical programs could be enhanced by including a section on the visual presentation of data with the use of graphics packages, for example.

Current and Future Use of Qualitative Research Programs

Crosstabulations of this variable reveal a similar outcome: some of the doctoral students currently use qualitative research programs as do faculty. Only one of the forty-eight masters students surveyed currently uses such a program and twenty seven would like to learn to use a qualitative research package in the future. Table XIV on page 122 contains these findings.

Current and Future Use of Clinical Applications

Again the salient factor is that none of the masters students currently use computerized clinical applications albeit small numbers of doctoral students and faculty are using such programs. Of the 48 masters students surveyed in this study, 52% are casework majors while 31% are administration majors. This finding is not surprising since the school does not offer instruction in computerized clinical social work applications. Yet as future line workers these students are interested in learning these programs which may help them in their clinical and professional practice. Another interesting finding is that while over half of the masters students indicated they would like to learn clinical programs,

a minority of doctoral students and faculty want to learn these programs. Table XV on page 123 contains these findings.

For a summary of the demand for training in various software applications, see Table XVI on page 124. This table indicates what type of training is desired by masters students, doctoral students and faculty.

Discussion

As expected, the majority of respondents currently use wordprocessing applications. These findings suggest that while doctoral students and faculty are using statistics and qualitative research packages most likely in connection with their research and teaching activities, the masters students have significantly less experience with these applications. Further, while most of these masters students have identified themselves as clinical social workers, none are currently using clinical applications though more than half of them wish to learn such programs. These results should be considered in the planning and implementation of a computers in human services curriculum for the school.

Overall these findings support the need for broader instruction in a variety of computer applications that can

assist and support social workers. These crosstabulations have revealed different distributions of computer usage among the various categories of respondents which are perhaps based on career goals, academic needs, and professional interests and practice. These findings support the position that broad representation of the school's constituents will ensure that the diverse needs and interests of these current and future computer users will be met.

Conclusion

This concludes the summary of findings from the three respective surveys. Unlike articles in the literature which have focused upon social worker resistance to computers, or the incompatibility between human services and information technology, these three groups show basic acceptance of the role of computers in social work education and practice. General agreement exists on the diminution of resistance among social workers and the willingness of students and faculty to participate in a strategic planning research intervention.

TABLE X
FINDINGS FROM 3 SURVEYS ON COMPUTERS: COMPARISON OF MASTERS STUDENTS, DOCTORAL STUDENTS & FACULTY

NEED FOR EDUCATION AND TRAINING

Percent and Type of Respondents Who Agree with the Statements Below

	I need to know more about how computers can help me as a social worker/ faculty member.	A course on computers in human services would benefit students.	Faculty need more training to fully understand the potential for computers for themselves, students & the school.	I prefer to receive training onsite (at the school).	Students are at an advantage if they are familiar with computer applications in human services.	The school will benefit from the ongoing services of a computer consultant.
DSW STUDENTS n=11	91%	91%	82%	91%	100%	73%
MSW STUDENTS n=48	94%	69%	85%	89%	96%	81%
FACULTY n=28	89%	89%	100%	96%	93%	96%

TABLE XI
FINDINGS FROM 3 SURVEYS ON COMPUTERS:
COMPARISON OF MASTERS STUDENTS, DOCTORAL STUDENTS & FACULTY

RESPONSE TO STRATEGIC PLANNING AS A RESEARCH METHODOLOGY
Percent and Type of Respondents who Agree with the Statements Below

	Use of s.p.* as research methodology to address computerization	The need for faculty input in the s.p. process	The need for student input in the s.p. process	Willingness to participate in committee to oversee s.p.	Committee should address potential problems of computerization
DSW n=11	100%	100%	100%	45%	100%
MSW n=48	98%	92%	94%	23%	83%
FACULTY n=28	57%	96%	71%	46%	79%

* s.p. = Strategic Planning

TABLE XII
FINDINGS FROM 3 SURVEYS ON COMPUTERS: COMPARISON OF MASTERS STUDENTS, DOCTORAL STUDENTS & FACULTY

CURRENT USE OF COMPUTER APPLICATIONS

	Word-processing	E-mail	Database	Statistics	Literature Review	Qualitative Research	Clinical App's.	Desktop Publishing
DSW Students n=11	100%	27%	73%	45%	73%	2%	0%	27%
MSW Students n=48	92%	21%	31%	0%	54%	18%	0%	23%
FACULTY n=28	93%	10%	35%	35%	52%	27%	10%	3%

TABLE XIII

CURRENT AND FUTURE USE OF STATISTICS

A Comparison of Doctoral Students, Masters Students and Faculty

	Use Now	Use Future	Unknown
Doctoral Students	5	3	3
Masters Students	0	29	19
Faculty	10	12	6

$X^2 = 23.23$, df = 4, p=.0001

TABLE XIV

CURRENT AND FUTURE USE OF QUALITATIVE RESEARCH PROGRAMS

A Comparison of Doctoral Students, Masters Students and Faculty

	Use Now	Use Future	Unknown
Doctoral Students	2	7	2
Masters Students	1	27	20
Faculty	8	9	11

$X^2 = 14.03$, df=4, p=.007

TABLE XV

CURRENT AND FUTURE USE OF CLINICAL APPLICATIONS

A Comparison of Doctoral Students, Masters Students and Faculty

	Use Now	Use Future	Unknown
Doctoral Students	2	2	7
Masters Students	0	25	23
Faculty	3	7	18

$X^2 = 12.66$, df=4, p=.013

TABLE XVI
FACULTY AND STUDENTS' COMPUTER TRAINING NEEDS

Application	N=15 Doctoral Students (%)	N=48 Masters Students (%)	N=28 Faculty (%)
Wordprocessing	0%	8%	4%
Spreadsheets	45%	42%	61%
Literature Review	18%	29%	39%
Databases	9%	44%	46%
Statistical Packages	27%	60%	46%
Qualitative Packages	64%	56%	43%
Tutorial Programs	18%	25%	46%
Video Interactive	45%	49%	54%
Games & Simulations	9%	23%	46%
Desktop Publishing	36%	40%	71%
E-mail/Communication	55%	40%	71%
Clinical Software	18%	52%	61%
Programming Language	55%	35%	61%

CHAPTER FIVE

HOW SOCIAL WORKERS LEARN TO LIVE AND WORK WITH COMPUTERS

Introduction

This chapter analyzes the data collected from nineteen semi-structured qualitative interviews with doctoral students, faculty members, professional and clerical staff in the school. These interviews attempted to elicit how consumers in the school of social work use computers, how they view computers, what problems they experienced, and what areas the strategic planning process should address. It also gave participants a chance to describe what it was like for them to begin using computers; to share what happened, how they felt about it and what could have helped to make the experience a better one. Their insights are incorporated in the general strategic planning approach and contribute to the inclusive and participatory nature of that model.

So often administrators and project managers plunge into computerization with the expectation that you unpack them,

plug them in and start producing every document or report ever wanted. More often, the process of computerizing an office, a department, a database or even a term paper entails more excitement, more frustration, and more time than anyone ever imagined. What is it like to be on the receiving end of that experience? Rarely are people asked and if they voice complaints they are frequently dismissed as resistant.

Once their initial nervousness dissipated, interviewees were eager to describe their personal travails with computer technology. From the worker who now cannot imagine doing her job without a computer to the doctoral student who cannot sleep at night from worrying whether the hard drive will crash, each has a story to tell.

THEMES FROM THE QUALITATIVE INTERVIEWS

Data analysis of these qualitative interviews yielded six major themes:

1. frustration with current school computers
2. the need to computerize school information
3. obstacles to computerization
4. the process nature of learning to work with computers

5. planning for consumers with disabilities

6. the need for education, training and technical support

Chapter Five discusses each theme and how it was reflected in the words and thoughts of the individuals interviewed. The study would have remained incomplete without this qualitative chapter which tries to convey an understanding of the emotional responses people have to the prospect of working with computers. As the literature review indicates, most studies look at concrete aspects of computerization such as percent and type of computer usage, applications used, or methods for teaching students and practitioners how to use the computer. Few however delve into the process by which consumers in a school of social work have acculturated to working with technology to benefit themselves, their students, staff and ultimately, clients. This strategic planning model calculates the socioemotional aspect of computerization in the planning process; to ignore it would sabotage any type of planning effort.

Are You Sure You Want to Interview Me?

The fact that social workers and school of social work faculty and staff regard computers with no small degree of trepidation is evidenced by the responses of many interviewees when this researcher asked to interview them regarding computers in human services. Many assured me that they were the wrong person for the interview due to their incomplete knowledge of computers, some needed to know very specifically what I would be asking them, perhaps they wanted to prepare something for the interview. Others laughed nervously and several dismissed their usefulness to this study outright. For example, one doctoral student/administrator said:

> I think I'm not a great person to interview. In order for me to answer I need to know more about computers.

Each respondent was assured that his or her participation is indeed useful to developing this strategic planning model. Their having displayed fears and anxiety over the interview though is significant itself.

FRUSTRATION WITH CURRENT SCHOOL COMPUTERS

Today's state-of-the-art technology is easier to use, works faster and is generally more user-friendly than past products. For example, many software "turn key" programs no longer require much effort on the part of the user but rather are ready-to-use applications. However many people first experienced computers when the technology still had many bugs to work out and was not well adapted to the needs of its users.

The Slow Pace of Computerization - We Waited So Long For This?

Several faculty members and professional staff expressed dissatisfaction with the slow pace of computerization in the school and with the early programs provided by the main campus. They described their frustration with having waited so long for computers only to be disappointed by the package that finally arrived.

One faculty member who had acted as a computer advocate for some time vented her frustrations.

I'm enormously frustrated that it hasn't happened yet. The current system is inadequate - you can't pull data out and it prints data with one entry per page so it has to be cut and pasted with scotch tape. The program was never really developed as the computer center never really understood our needs.

An administrator described the problems she experienced using the old computer system.

The old program was so poorly designed that two people couldn't get into the system at the same time. And the design was so sketchy you couldn't pull statistics out of it. Now we've completely circumvented the old program.

These statements show that having a computer consultant doesn't always produce the desired results. Having a computer consultant who understands the needs and perspective of the school would have proven considerably more useful.

We could use further consultation by someone who knows the field and the school. I emphasize that because over the years I saw how difficult it was to explain our needs clearly to the central computer people and they didn't get it. The only way to get us really surging forward would be if we got that outside help. That would be another step beyond what we have planned currently; merging the technology so that it conforms to the needs of the social work school.

This faculty member expressed a similar opinion.

The current system is too cumbersome. We need someone who understands how the school works and can develop computer systems that reflect our internal needs in a realistic way.

Effects of Prior Experiences

Prior experiences with poor equipment and inadequate vendor support often color one's attitudes toward the computer. Difficulties experienced during the process of computerization such as defective equipment, weak vendor support and unrealistic organizational expectations can contribute to staff resistance to and frustrations with computer technology (Bloch, 1993). Positive early experiences are naturally encouraging to computer users but neophytes can be completely turned away from computers after a negative experience.

We had a lot of difficulties as IBM did not live up to its timetable. We had a lot of trouble with IBM - I was not impressed. If it wasn't for our own part-time computer consultant, who was working on somebody's grant, it never would have gotten done. They had made some errors with the specs - it was quite a scene, especially for a company I grew up thinking was God, service, expertise, the whole bit.

Overall faculty and staff seemed disillusioned with the

lagging pace of computerization especially those who came from environments where computers were already an accepted part of the workplace.

I came to the school from a very computer-oriented operation. We had research associates, faculty, graduate students who all worked with computers. When I came here it seemed like a big step back. This was very much a paper and pencil operation - hardly anyone had a computer though some people had them at home.

Computers in the Library

The surveys revealed that most of the doctoral students (80%) and masters students (67%) are comfortable using the computers in the library and half the faculty who responded are. Yet the in-depth interviews revealed another side of that experience. Students were the most vocal in evaluating the computer arrangements in the school's library. Several were unhappy with the computers, finding them slow, tedious, and difficult to access. Often they opted to use computers at their worksite rather than at the school.

I had to wait an hour to use the library. The librarians are helpful but they are more helpful where I work. They're always available to help you there but you have to sign up. That sign-up procedure would be wonderful to have here.

I hate the computers in the library, even the new system they have. I find it horrendous, especially the one where you touch the screen when you try to bring up references. So I tend to use the one where I work. There is a very large network of computers here with all the psychology and psychiatry literature and I have access to everything. So I very rarely use the computers at school unless they are social work references that I can't obtain anywhere else.

Faculty criticized the slow response of the machines.

One thing I've noticed is that when we have four machines working simultaneously it is very very slow. When I come in in the morning, two of us are sitting there using the equipment and it will work, kind of. I think it's the time of day; 2 -3 o'clock it just stops, no matter how many machines are working.

This student felt uncomfortable using the library computers.

We had a library orientation in our class but it's still a frightening thing for me to go in there and have people not being helpful and to have people waiting to use the computer. I was really reluctant to do things by myself on the computer. So I ended up doing it at my other employer's library and hooked up with someone there. I can't say I really used the library at school. I didn't find it really accessible. Maybe I just didn't find the right people. At the other library I could spend time with someone, nobody was standing over my shoulder waiting for the computer.

Other students and faculty had more complimentary things

to say about the computer system in the library.

A faculty member commented:

I think our library computer system is a good one. I see what kind of information students get. It's user friendly - students who come to the library are probably getting more than through the old system.

This student was very pleased with the library but not with the library aides.

The library computers were a real help to me. I thought I had exhausted all the literature but I found references I had never even seen before. I had never used them before but the librarian helped me and she was excellent. I remember going to the library and looking for the card catalog to find books. When they told me it's on the computer I was kind of intimidated to access it and then when I did, I couldn't really figure it out. I had to ask other students to help me and sometimes they were really busy with their own stuff and didn't have time to help me. I don't find the library aides to be helpful which I said in my questionnaire last week.

This student found the computer upgrades to be a great improvement.

Since the library upgraded their card catalog system it's been great. At the beginning I didn't like the machines they had. At my college we had a brand new library with topnotch computer equipment so I was used to easy access to everything. I felt I had to retrace my steps, I felt very awkward. But since the upgrade it's been a lot better.

THE NEED TO COMPUTERIZE SCHOOL INFORMATION

Professional staff, students and faculty voiced their concerns about the need to quickly obtain information - student records, lists, field work reports, alumni records, and more. Some reported on the information needs of their particular department, while others pointed out that some types of information are shared by multiple groups, such as admissions, faculty, the main campus and students. This dovetails with the survey findings which revealed 73% of the doctoral students, 79% of the masters students and 100% of faculty support computerizing school records. Computers are useful at organizing large amounts of data and the school is now designing a system for organizing and linking student records.

This administrator describes the type of records that could be computerized.

It would be helpful to be able to group students by both field of practice as well as major interest and computerizing the field work data could easily accomplish this as opposed to doing it manually as they have been over the past number of years.

This department head hopes the new system will reduce

the amount of paperwork.

I am hoping that the new student record system will not only enable us to keep better records but reduce the amount of paper that circulates particularly in field work where I feel there is just an exorbitant, unbelievable amount of paper.

An administrator articulates a vision of what should be computerized.

There are may other things we could do if we began to keep records on computers. For example, every year the student representatives change. We need to be able to contact people and that kind of thing ought to be computerized. And the graduate students and alumni files should be linked, there should be an easy way to do that.

Faculty members and administrators cited the need to quickly access student records and statistics regularly for their own needs and for external accountability, too.

I need statistical information on students all the time. Every year I do a report for the Council on Social Work Education and I need statistics like how many are born who are between 25 and 35 years of age, who are minority, female, male, etc. So many times we did this manually by going through the papers. I am hoping that this year we will never have to do that again.

These findings are consistent with the survey results

which showed that faculty and students want to improve communication and the flow of information. Also, recent accreditation reports cite the need to reduce the labor-intensive nature of work at the school, a finding strongly supported by faculty and school administration.

OBSTACLES TO COMPUTERIZATION

Computers have been around for a long time and social workers have been experimenting with them for over twenty-five years. Yet computers are not only underutilized but regarded with suspicion and misgiving in schools and agencies like. The literature has explored social worker resistance to computerization in depth (Grasso & Epstein, 1987; Mustchler, 1987; Bloch, 1992) and it figures prominently in these interviews, too. People spoke candidly of other obstacles though and the fixation on worker resistance is diminishing as alternative barriers become evident.

Lack of financial and human resources, organizational dynamics, personal concerns about technology, and of course, computer anxiety and phobia can all be considered obstacles to computerization. The lack of financial and human resources

implies insufficient funds to purchase hardware and software, to purchase or replace printers, modems, assistive technology, and to provide technical support to users.

What can easily be dismissed as resistance often conceals organizational issues, such as the basis for allocating equipment; the decision-making process around information technology and whether computer champions or gurus are present in a particular institution. Yet it is unfair to completely ignore reports of computer anxiety, a true phenomenon. These interviews uncovered many fearful and uncertain practitioners who were able to turn their fears around and sometimes become ardent computer users.

Consumer Resistance

Why Some Students, Staff and Faculty Want Nothing to Do With Computers

For many reasons, many in the social services domain are loath to enter the world of high technology. As the surveys reveal, some don't use computers at all, for work or for personal use. Some might be consumers of computers if they knew what services computers could perform for them. Even

among "light" computer users in this study, there were clear knowledge gaps as to specifically how information technology could be applied to social work education and practice.

These gaps serve as barriers between computer literates and non-literates. Although only a few faculty use the computer lab, those who are familiar and comfortable with it take their students on tours of the lab. They demonstrate various applications such as database programs and how to connect with other institutions using a modem, though not always successfully.

A staffperson commented on faculty computer use.

> There's a handful of the faculty that use the computer facility. They use the lab to type papers, really mostly wordprocessing. Some of them use it for research and most of the faculty that use computers in the lab have their own at home. Having a modem here is definitely essential. A lot of people don't ask for that though. I think if they knew they would ask for it. Professor _____ 's class comes in the lab and he shows them how to access different kinds of library databases. Once we had difficulty connecting and the line was bad.

The issue of faculty resistance needs to be more carefully understood. What has been characterized as resistance may simply be a lack of enthusiasm for or exposure to computers. Perhaps with adequate training and equipment,

faculty might be more amenable to widespread computerization.

One administrator challenged labeling faculty as resistant.

If you haven't got them (computers) you can't move forward. That's where the dilemma is - the unknown. If you've got them you can get people to learn and find out where the hangups are. Since we haven't gotten the equipment we don't know how the faculty would react. I've experienced people coming from the main campus and saying, are your people really ready? That's an external perception and I'm saying it's not necessarily there. It doesn't mean they won't necessarily run with it given the opportunity. It's a bias to lay that label on them.

Some question whether age is a factor in computer use and acceptance. Students show varying degrees of acceptance where computers are concerned and on occasion it varies with their age. Some adapt quite easily to the library computer system and the computer lab but others are reticent to touch the keyboard.

One student talked about why peers resist computers.

I think in talking to some people there might have been some resistance. More of a fear of trying something new, working on this piece that wasn't really a typewriter. Even among faculty at the college where I teach, that resistance is clearly there.

Another student talked about personal bias and its effects in the workplace.

The last job I had was at a very good department of social work. Going out to school, writing, publishing, research were all very important but computers never played a role in that. I think it came from a very hierarchical structure, the director and the people around her. It was really a travesty that they refused to deal with computers just because of her fears and the people around her not wanting to deal with computers. So there were probably one or two people in the whole department who were really competent in terms of their research and in terms of their computer skills. And everybody would go to this one person. There was no empowering going on.

This staffperson spoke about whether age is a factor in the acceptance of computers.

What I found with technology is that it isn't an age factor. It isn't that all young people take to it and all older faculty don't. It's a matter of how it's introduced, what kind of support and training they get, and do they have the opportunity to use it.

Some social workers feel strongly that computer technology and their work helping people are intrinsically incompatible and that belief constitutes the core of their resistance. Interviewees were asked whether the concept of role strain was applicable in this context.

One student derided the opinion that working with people is inimical to using computer technology.

I think that nowadays anyone who wants to go into social work needs to be a good writer. And it's better to do writing through a computer rather than writing by hand. It's faster and you're more productive and efficient. And anyone who says they want to work with people needs to use it because you have to document everything you do if you work with people. And you might as well document it in the most effective way. The documentation is a lot more effective than sitting and writing it longhand. I'm shocked at people who still write things out in longhand. I always put things on the computer. It's much more effective; you store it and you don't even have to print it out.

Some have raised concerns about the impact of gender inequality in computing and its impact on computer literacy in human services (Reisman, 1990). A couple of interviewees discussed gender and the role it might play in resistance to computers as machines.

My feeling is always that men know much more about computers than I do. Although my husband is just learning about computers and he's just as anxious as I am. And in my class the women were just as proficient as the men. There is the stereotypical attitude. If you did a random sample of people perhaps more men than women would know about computers. Men are just raised to be more machine oriented. In my class I don't think the men knew more than the women. If you look at social workers, I don't know...I like to think we're different anyway in terms of gender roles.

A doctoral student shared her observations on gender and its impact on computer use.

At the professional level, I think women tend to be a little more computer-shy than men. With undergraduate students, maybe so of masters students, I don't think it makes a difference. I have seen the guys become more computer-shy than the girls, especially if they don't know how to type.

This student shared her experience of growing up not learning how to use machines.

When I started four years ago I was petrified to even touch the machine. I was pretty much raised that when it came to machines and gadgets I didn't know anything about it. You're talking to someone who didn't know how to light a stove when she got married. And so I was petrified. They expected me to know computers when I took the job. And I said I did, I lied. They were using Microsoft Word at the time and there was no tutorial on the machine. Luckily some of my colleagues here, the nurses taught me. Once I got the basics down I literally spent hours and hours in front of the computer and taught myself.

Everyone it seems is familiar with the concept of resistance to computer technology. Perhaps they've experienced it themselves and no one has escaped the plethora of jokes about people who can't program their VCRs. But what to do about it? A doctoral candidate offered potential solutions to student and practitioner resistance.

I really believe that while we can't force every social work student to be proficient, there has to be a basic philosophical change from the school that goes as far as having a track in that area. I think that has to start at the masters level. Even to change the whole philosophy about computer use, that it doesn't have to intrude on services to clients, that it doesn't have to cause problems with confidentiality and things like that. That would be helpful. I do think that on the doctoral level there has to be more mandatory hands-on experience.

Fear, Anxiety and Intimidation

Clearly a significant barrier to computerization concerns the fear and anxiety people experience in connection with using computer technology. Several themes emerged over and over again as students, faculty and staff described what it was like when they first learned how to use a computer. They revealed feelings of intimidation and inadequacy especially if they had never used computers before.

Before I knew anything about computers and I was computer illiterate I was full of fear and anxiety. Computers - oh God, I was horrified. I didn't want to know from them. When they sent me for classes, I was a person who had never touched a computer before.

Another staffperson described a similar reaction.

I was overwhelmed when I first saw the computer. Someone from the college came and set it up. You can't be afraid of equipment though. I'm a hands-on person - and you have to be observant, too.

Except for the occasional gadfly most social workers and people in general are unlikely to question the merits of computer technology. Often people are overwhelmed and intimidated by the machines and in a profession which is people-oriented and stresses skills such as empathy, the ability to communicate, and problem-solving which is usually of a non-mathematical nature, fear is a common initial response to computerization. The interviews provided people with a chance to vent their fears and to explain how they overcame feelings of anxiety and discomfort.

These students were eager to share their understanding of that sense of fear and anxiety.

I think people resist computers out of fear and fear of being ignorant. Is it fear or ignorance? They're afraid to be ignorant - especially professors. And students, you don't want to appear more ignorant than you already are. You need to conquer this thing with the computer. It's like learning a new language. That fear of the machine is what it's all about and

what holds people back.

The computer was a lot less threatening once I learned how to use it. I could go back and feel comfortable. It was the unknown, not wanting to look stupid, not wanting to figure things out myself, being afraid I couldn't.

Faculty also had insights to share on this topic.

Our students don't know the library system unless they go to the main campus and attend a workshop. Some of the older students have come to me and said, we are not going to use the computer. They do not use the machine, it's a phobia. They don't know what to do. They're afraid to push buttons. They're afraid if they push the wrong button the world will explode. I have one student who is afraid to sit at the computer.

Upon discovering some of the unpleasant experiences people had undergone their fears at times seem very much justified.

In 1974 when they put that machine in front of me I didn't want to look at it. I don't know how I overcame it. Each time I sat down at the terminal it went dead, it was a joke but it was purely coincidental.

Others had more positive experiences that helped alleviate the fear and tension that accompanied them at the onset.

When I bought a new printer I didn't know how to install it. When I actually bought it and saw how easy it was to install, I thought, why were you so afraid, that was so easy. But I think every experience with computers has been like that, that sense of fear, because it makes you feel really ignorant. I bought a new fully loaded computer and brought it home and couldn't even work it. I was afraid I was going to erase something. So all this fear went into computers.

This theme was repeated throughout the qualitative interviews even among people who had been using computers for a long time and are presently computerphiles in their own right.

There still is an extremely anxiety provoking part for me because I'm not 100% comfortable with it. I'm always afraid that I'm going to lose something. I'm always afraid that my computer is going to die. I'm always afraid that I'm going to do something wrong. It's a real mixed bag - when it's going great, it's great, but....

I still think I don't know enough. I'm still afraid I'm going to delete all my information.

Some take precautions with the computer so that their worst fears aren't realized.

I am nervous that I could screw something up even now, but it doesn't stop me from trying it. I acknowledge it and I make tons of backups of everything so I can always recreate what I did. So if I'm missing a couple of sentences, that's okay. I'd rather put in two sentences than two pages, or 2000

pages.

On the Front Line

Instructors with experience teaching students how to use computers have considerable insights to share. Some have specific approaches for demystifying the computer, others simply acknowledge the level of fear and anxiety in certain classes and groups of students.

This research instructor experienced greater difficulty teaching older students who had been working in the field already.

Working social work students (OYRs) have more work experience, they are out in the battlefield, so to speak. They may not have the time to learn computers. They're older, the older generation, so they don't know. It takes a lot of patience to deal with them. They come in with a fuzzy sense of what the computer can do. Because of that they may be a little intimidated, aside from the statistics. You've got computers and you've got statistics and it overwhelms them at times. I'm not saying all two year students are comfortable with computers, some of them also have problems with it. A lot of them say that their thing is social work. A lot of them have the mentality that "this is not my thing". It's social work and it's a personal thing and computers are more mechanical - and it's really not that way. Some people have computers at home and see it as a tool to help, others say no, that's because of their fear of computers.

This instructor assures her research students that computers can be for them, too.

I tell my research students who are all afraid of the computer, "How many of you hate numbers, how many of you hate research, how many of you don't want to be here? How much is that related to your hatred of numbers, math, and standard deviation and chi squares and things like that?" Every hand goes up. "How would you feel if I told you you never had to learn a number in your whole life? Not even SPSS - you don't have to know numbers, you can do qualitative." I use that same spirit to introduce the computer. "It does the math for you - you just have to understand what the test is for." Look at social workers - it's mostly women. It's not a male-female issue, it's a career choice issue. People go into this because they're in touch with their feelings. And here we are telling them that computers can be for us, too.

Another instructor advises her students:

Kiss your computers - they're going to be the best friends you ever have. Your work will be infinitely easier the minute you learn to master the computer. For every paper you write, you can edit whole paragraphs, delete sections, move blocks, and you don't have to retype it each and every time. You write right on the computer, no more rough drafts. Learn to compose on the computer.

Financial Barriers to Computerization

A practical concern to the computerization process is having enough financial resources to support the purchase, maintenance and technical support required for such an endeavor. Small agencies, schools and even large institutions

are frequently unable to make funds available to support computerization even if they want it. Lack of finances can also function as a smokescreen for people unwilling to try this technical innovation but it acts as a legitimate barrier to introducing or expanding computerization in an organization.

Faculty spoke of the impact lack of funding has on computerization.

> Our agencies are so damn poor that it becomes a question of technology or staff. And that is wrong. That's not a choice that is appropriate. If you don't have the money though how are you going to get them?

Inadequate funds prevent the acquisition of new and better software for the school.

> We could get SPSS for Windows but we'd have to pay for it out of our own pocket and that would be a lot of money. One SPSS package for one machine would run us about $1200. If you buy it for 20 machines it would be a lot of money. So we're pretty dependent on what site licenses the main campus gets. We wrote a proposal for things we need. We're in DOS 5 and DOS 6 is coming out and we want to at least be up to date in terms of new things that are coming out for DOS. We need a lot of basic things right now.

A doctoral student expressed her frustration with the dearth of resources for computer equipment.

I think there is such a lack of funding in this area. Last year we applied for a grant from Apple computers. But we had to go through all this nonsense to apply for it. In order for our school to get computers we had to find a high school, we had to link up and put on a special program. I wish there were more programs out there, more sources for funding for computers. It's a serious limitation. What's out there is basically for the public schools and not necessarily for colleges. This is sad - I think colleges are in need just as much as the public schools are.

These financial barriers also prevent individuals from obtaining computers for home use as well.

It would help me to get access to the computers at school. Not everybody can afford a computer.

Many students can't afford computers so they get the next best thing, which is a wordprocessor. The thing you have to address is how can they learn it when there aren't computers available?

Lack of Equipment

Closely related to financial barriers is the lack of equipment and access to computers and technical support. Without adequate funds schools are unable to purchase new hardware and software, printers, modems, interactive technology, and provide adequate training and support. For those who would like to begin using computers, this represents a tremendous frustration. For those who have already begun using computers and would like to improve their skills, add new programs and take advantage of better technology it also represents a limitation.

My greatest problems are equipment and communicating my needs to people in power and in the position to do something about it. The money crunch - and they don't have it. As far as my computer needs being a priority they have to take my word on that. They don't know if I really need something or not. We're short on staff and our equipment needs upgrades but again you're talking crunch.

People don't budget adequately for computers. They figure it's a one-time expense and that's it. They don't plan for upgrades on hardware and software as it needs to be done. Consequently, I will do it myself - I've done it here and paid for my own software. I can't wait until somebody is ready to upgrade my machine.

One area where we are heavily handicapped is lack of equipment. We're increasing the number of computers we have but we had to start from nowhere virtually. Not everyone has

a machine at home and you might notice that I don't have a computer, neither does another administrator.

Another administrator shared this point of view.

Our scholarship secretary doesn't have one and we have to do all our records manually. So that's a serious obstacle. We should be able to keep all the scholarship monies that we have on a computerized record. I don't know if the current staff have the knowledge. But it seems to me that if we have the machine and the program and the computer, you can train them.

Staff revealed how backdated the equipment they use is.

I have 20 megs of memory. That is sort of absurd - nobody has 20 megs of hard drive memory anymore. Laptops have 140 now or 210 or something. But it's difficult to explain this position to those in power because they're not plugged into this arena.

Another staffperson shared his vision of the future and what could be done if upgrades and equipment were funded.

Ideally what we want to have is all the computers connected. I think it's powerful for a student to be able to access other libraries and see what they have. I'd like to see that resolved as part of my longterm goals. When I say longterm I'm pushing for it within the next two years. Right now, we can't put anything else on our computer. The network is full already, it's maxed out. We need space. A professor gave me diskettes with a database for a statistical research program. It takes up a lot of space on the hard drive. I'd like to have it. Anything that has to do with social work I'd like to have in a social work software library and make it accessible. There are some artificial intelligence programs

out there that might be good for social work students to have. There are a lot of students who are becoming therapists and there might be some things they could use. Again, we need the space in order to facilitate making those programs available.

The printers are horrible and you can quote me on that. We're working on changing the server along with the printers. The problem with the printers is that they jam up very easily especially when you're running a lot of data on them. I guess they might work okay standing alone but they don't work well in a lab situation. We're looking to replace them with faster printers, Epsons and any of the Panasonics.

Lack of Access to Computers

Part of purchasing equipment involves making it available to social work students, faculty and staff. The addition of machines, software programs and establishing enough hours in the week for people to make use of the equipment all fall under the rubric of access.

I love computers - I think they are so useful and wonderful to anybody in this modern age. They have the potential to be a major resource to social workers if more of them were available. I would love to see every social worker from this hospital be able to write their chart notes on a computer that would be electronically networked to the patient's chart. They have it at some places but we're light years behind here.

I found the CD-ROM very helpful, searching databases. The only problem with that was getting on it because there were always people on it when I was there. And the second thing was

that all of the times that I used it, once the printer worked. So I would go through doing all these searches and I couldn't print out what I wanted to. And I found that very frustrating. Also, there was no staff available to help because they were so busy.

Nobody likes to wait . . . This librarian reveals how the lack of equipment and shortage of trained aides impacts upon computer use in the library.

In the library there are only two librarians and we have to do everything. Our aides don't really know the computer system so they can't help students. Plus we only have four terminals. The printers are adequate but we only have one that serves two terminals so you have to take turns.

If they had more computers available it would be a lot better. For the programs they have, the MSW program and the DSW program, it's not enough. They need more equipment - there are too many students waiting to access computers. Maybe they should even have a private lab for doctoral students, or private hours of access. We do more research that the masters level students so there should be an area designated for doctoral students. I'll comment even a little bit further. At the time when the course began, I didn't have a computer at home and with all the writing we had to do I was a nut not to have a computer. On several occasions I had asked to use the facilities upstairs. They said there were classes going on and I never got to use it. It was a search just to find the person to get in. I needed it to print stuff - I never felt I had that access. It's a great room but it would be better in terms of accessibility, not accessibility just in terms of classes but for students who may not have computers at home.

This student cited a lack of awareness about the school's computing facilities among students.

I think the school needs to make people more aware of the computer lab on the 10th floor and that you can use it. I never really felt like I could just go in there and use the computers. Probably because I was afraid. I don't think they make it all that available. There's a lot more that we could do with research on the computers than we're doing.

PROCESS NATURE OF LEARNING TO LIVE AND WORK WITH COMPUTERS

A major finding of this study concerns the process of social workers' adapting to computers. Computerization is both a learning process and an emotional process that people undergo in accommodating to information technology. Interviewees recounted their experiences with full candor - how they began hating or fearing computers but over a period of time, were able to acculturate themselves to working with technology and at times even found themselves really liking it. A key component to the strategic planning process is promoting awareness of that process; understanding, accepting and anticipating the fact that students, faculty and staff don't become accustomed to computers overnight. Rather after a series of experiments, early victories, and through gaining mastery and skill of the machine people are able to conquer their fears of technology.

This finding is significant because it contains implications for the planning process in several areas: in establishing timeframes for learning to use computers, maintaining reasonable expectations on the part of administration and consumers, and in making the appropriate training, education and technical support available to computer users. Knowing the various stages people go through in this process teaches us how to introduce computers and computer education in the school of social work.

Students and staff described that process with complete clarity and understanding. A doctoral student who is employed as an administrator at an urban teaching hospital described her process of acculturation to computers:

> It's only been the last four years with this position that I've worked with computers. Four years ago I never touched a computer. I think I have a lot more to go. It took me a good year to get comfortable and as I got more comfortable I was able to ask my peers to show me more. I'm at the point now with Microsoft Word that I'm teaching my staff how to do it. It took me four years to do it. I'm convinced that if I would have sat down somewhere for an intense course for a week that I could have cut through a lot of the garbage.

> The thing is in the beginning you feel very bound by the computer because you are a slave in a way. You don't have control or mastery, you don't know what you're doing. Once you get that knowledge the computer is really your tool. And it's

a much more effective tool than a pen, pencil or erase or the scissors for the old cut and paste.

People who never dreamed of using computers in fact became proficient on their equipment.

Another doctoral student who is employed as a medical social work supervisor shared her experience of adapting to computer technology.

I only got this computer started in February. Initially I was pretty anxious about it. I didn't know how I would integrate work and the computer. It probably took me all of a couple of days to do so. It's so easy to integrate, it's more fun to work having a computer. That process was very quick for me. Our director is learning wordprocessing. One of the things that's hard for her is typing directly onto the computer. That used to be hard for me, too. I used to do a draft and then type onto the screen. It was the same thing getting used to it at work. I was so used to writing things out. Then within a couple of days I was composing directly on the screen and it's great.

This doctoral student observed faculty at computer training workshops at the college where she is employed.

It's interesting because I think once you show faculty one thing to do on the computer, familiarize them with how friendly a particular program might be, they become kids almost in front of the monitor. It doesn't seem foreign or scary.

People emphasized the stage in this process of feeling comfortable, becoming skilled at using the computer and

feeling less fearful. Learning simple tasks seemed to contribute to this change and often left people wanting to learn more. Respondents described a process of gradual adjustment to computers in the workplace, an ongoing series of technical and personal changes.

I'd like to get better at the computer so I get more confident. The more I use it at work and at home, now I have compatible systems, I feel much better about my ability to use these systems. Once people feel more comfortable then they're able to see it as a useful tool.

I bought a computer because somebody told me it was important to buy a computer for school. I knew that writing everything out and typing it just seemed a little ridiculous. I really learned to do wordprocessing. I have to say that's all I really used the computer for. I got good at doing it. Being able to access other people's work, being able to communicate with other programs, just really feeling more comfortable would have been helpful.

This staffperson made a total turnaround from initial fear and paralysis to overwhelming support for computers.

In the beginning when I first learned this program, I still had questions. I wasn't that good at it. I called a lot downtown. Once I learned it, I realized it is absolutely fantastic. I don't understand how anybody could use typewriters now. The time saved is incredible. Here I am feeling great about it and I'm thinking I can save even more time.

Another worker reveals how she has come to depend heavily on the computer for completing daily routine tasks.

> In the beginning you're a little nervous about what you're doing. They're a little frightening at first. But now I can't function here if I can't utilize the computer.

Conquering fears is not the sole attribute of the process of learning to live with computers. Computerization requires workers to rethink and completely change the way they normally approach routine tasks and decisions. Rather than avoiding technology, some faculty, staff and students chose to teach themselves the new tool. Some were quite capable of taking the initiative themselves while others preferred to wait for formalized training. The issue of computerization as a process cannot be treated singly as a discrete element but must be considered along with other factors such as personality traits and individual willingness to deal with innovation and change.

PLANNING FOR COMPUTER USERS WITH DISABILITIES

Computer Users with Disabilities

This strategic planning model for computerization in a school of social work strives to be comprehensive and should therefore consider the potential needs of all current and future computer users. Although computer use at HCSSW tends to be distributed somewhat narrowly now it is anticipated that greater numbers of students, staff and faculty will be relying on computers for a variety of tasks as the survey findings in chapter four have shown. To live up to its promise, a strategic planning model should not only address the needs of able-bodied users but the needs of constituents with multiple types of disabilities as well. There also exists a legal precedent for taking such action as the section on the Americans with Disabilities Act below explains. This point was emphasized by the Director of the Office for Special Services (OSS) time and again during our interview.

The theme of planning for computer users with disabilities did not manifest itself throughout the qualitative interviews nor is it a prominent theme in the social work literature. However, two questions in the surveys did cover the issue. Students and faculty showed nearly

unanimous support for rendering computer systems completely accessible to persons with disabilities. Throughout the interview, the director of special services underscored the fact that any planning effort must include sensitivity to and preparation for individuals with a wide range of physical and mental disabilities.

Computer Users with Disabilities:

What the Law Requires

The passage of the Americans with Disabilities Act (ADA) of 1988 (see Appendix for a copy of the ADA) mandated that in schools or public accommodations in vocational, employment or professional settings, individuals must be given the opportunity to have equal access to whatever everybody else has. This legislation portends great changes for any school of social work in order to achieve compliance. The Director of OSS noted:

> There are curricular issues and there are building issues and we are dealing with those separately. The issue that I'm dealing with that's relevant to your work is the provision of assistive technology. And the two places where I'm looking at that most boldly are in the library and in the computer lab.

The specifications of the law are clear but what are the

goals of the school in terms of providing for students, staff and faculty with disabilities? The Director of OSS had this to say regarding the intent of the ADA:

> The letter of the law requires that this equipment be here to give this person equal opportunity. It's a civil rights law. It's the most comprehensive civil rights law for people with disabilities. But the spirit of the law speaks to a change from a view of people with disabilities.

Shifting to a Consumer-Driven Philosophy

Here she explains the medical model perspective on persons with disabilities and provides a rationale for changing that perspective to one of empowerment that is also consumer-driven.

> We are accustomed in education, nursing and social work to viewing people with disabilities from the medical model perspective. Except that once a disability is stabilized, if someone is born with it or someone has an adventitious disability, an accident in life or the sudden loss of vision or hearing or a stroke, that once that disability is stabilized that person is no longer sick and medical model application no longer applies in any of the helping profession disciplines. What applies is that now people see it as a sociopolitical issue. And the spirit of the law is the sociopolitical issue. So this is about inclusion, about empowerment, we're not talking about clients or students, we are talking about consumers. And it is a consumer-driven

philosophy.

The idea of a consumer-driven philosophy applies to all constituents of the school and actually should apply to all computer users. In the context of this study, several implications follow if we in fact adopt this consumer-driven concept.

PLANNING FOR CONSUMERS WITH DISABILITIES

The planning model is a tool for coping with organizational change of a sociotechnical nature. These remarks are apt in the context of such a model in that planners are asked to be expansive, inclusive and participatory when contemplating computerization.

Here the director of special services speaks to the representation of persons with disabilities in the planning process itself.

> When planning is done regarding people with disabilities the best people to be involved in the planning are those very people. What most planning people don't realize when they're talking about people with disabilities is that they're still doing it for them. And I find that it's very patronizing, it's very medical model. "Here's this poor sick person who needs this attention, who can't speak for him or herself." So these folks need to participate in what drives the decisions made around servicing them. In comprehensive planning for people with disabilities, even in the area of

assistive technology, any agency or any board or any place of employment that is looking into that, and certainly a school of social work, should have more than ample representation, in fact leadership representation by people with disabilities. They know best their own needs and things occur to them that don't occur to we who wish to advocate for them.

When asked what types of modifications and assistive equipment might prove useful to consumers with physical and mental disabilities, the director of special services cited several types of adaptive technologies.

For our computer lab and library there should be the ability to print material in braille for blind students. There are ways to prepare materials taped, scanner and it can be prepared in braille. We should have that available. There is a stand-alone reading machine that would be very useful in the library. I think IBM is working with software that adapts this called the Reading Edge. It doesn't even have to be hooked up to the computer that can assist learning disabled students, blind students and visually impaired students - it is essentially a reading machine.

She describes equipment that corresponds exactly with the spirit and philosophy of the Americans with Disabilities Act in that it allows students equal access. Students with disabilities otherwise aren't able to keep up with the materials, concepts and exercises that are commonly covered in a research class in the computer lab.

There is large screen software that makes it visually possible for the person to sit and see what everyone else is seeing simultaneously so that it enables them equal access to participate in class and ask questions as they occur to them or when the professor is in the room. Because if you do a printout and then enlarge the print and take it home there's nobody available, the class is over. That's not equal access in the letter and spirit of the law.

Software programs exist that are appropriate for persons with specific physical challenges and motor disabilities.

Then there are students who are quadriplegic, who are post-polio or with some inability to input in a computer with their hands. Perhaps they have a muscular disease, cerebral palsy. So there are voice activated input systems that replace standard keyboard systems. One that I heard about was called Dragon Dictate.

CONCLUSION

This section of the qualitative data analysis explores the theme of planning and preparing for the physical and mental needs of current and potential computer users in a school of social work. Persons with disabilities are a frequently overlooked group whose unique needs can be made known and met through appropriate representation during the planning to plan process. Various types of adaptive equipment,

and fundamental changes in the way we look at students, faculty and staff with disabilities will contribute to their being able to fully and equally participate in the use of computer technology.

EDUCATION, TRAINING AND TECHNICAL SUPPORT

One area that has been covered in depth in the social work literature on computers in human services is education, training and support. Numerous studies have shown that timely and appropriate kinds of computer training and support ensures a smoother transition to working with technology in social work education and practice (Grasso & Epstein, 1987; Grasso, 1992; Mutschler, 1992; Bloch, 1993). No matter how good the computer system its potential cannot be reaped without training that applies either to the work an employee does or to the subject matter a student is learning.

The data from the quantitative surveys administered as part of this study support the provision of additional training and education and the services of a computer consultant who is familiar with the social work domain. Universities and agencies should consider such needs when

budgeting for computer purchases. Along with the actual equipment, training and technical support comprise a hefty portion of the financial commitment necessary to support computerization. With equipment and new software programs being developed constantly, there are ongoing needs for upgrades, manuals and training.

Several themes emerged under the general topic of computer education, training and technical support in the semi-structured interviews and these include: educating library aides about using the computer for literature searches so they can help students with the same; providing training and workshops on computer applications for faculty, a finding substantiated by the surveys; offering a course on computers in human services to provide a basic level of skills and computer literacy to students; establishing technical support and funding a consultant to help with future computerization projects; maintaining realistic expectations about what computer training will accomplish; and instituting an orientation to the library computers to lessen student fears and resistance. This section explores these sub-themes and provides supporting data from the interviews for each of them.

TRAINING

Training Staff

Multiple forms of information and communication must be exchanged in order for a school of social work to function adequately and smoothly. Staff keep numerous records concerning students, finances, research projects, personnel data, budgets, and academic records to name a few. Staff depend on computers to relieve them of much of the routinized, tedious record-keeping, organization and maintenance they must do to manage such information. Staff and faculty talked freely about their training needs, their attitudes toward computer training in the past and present, and their recommendations for the future. Most responded positively to the issue of training and requested more opportunities to learn new software or become better acquainted with software programs they already use. As revealed in Chapter Four, most faculty and staff prefer to receive training on-site at the school which is an interesting finding because during the in-depth interviews, most people claimed not to mind going off-campus for computer training. The surveys however suggested otherwise and students certainly prefer to receive training at the school.

A secretary describes her past experience with computer training on campus.

I trained at the college - I took two days off and I thought the training was pretty good. The teacher was going fast though. But there was a refresher course here, too which helped me.

Several students complained about waiting to use the library computers and not having received much help from the library aides. Learning to use the computer to conduct literature searches is a valuable skill which should be shared among library staff so they may better assist students.

A librarian commented:

In our library there are only two librarians and we have to do everything. Our aides don't really know the computer system. We need to develop a summary of what we do and share it with the four aides who help us so that when we're not here they can direct students to do searches, when they actually know what they're doing.

Training library aides would help relieve some of the pressure students now experience when trying to negotiate the library computer systems on their own.

I think that learning how to use the computer for other things, such as a literature review, would have been really helpful at the school. Being able to access other people's work, being able to communicate with other programs, feeling comfortable with doing things other than wordprocessing would have been good.

Realistic Expectations Regarding Training

Computer training is a necessary adjunct to hands-on experimentation and informal learning experiences. Attitudes and expectations about what computer training can accomplish must be tempered with a dose of reality. The staff member who discussed her training experience above seems well aware of that fact. Her next statement addresses a critical dimension of training and education and that is the need to maintain realistic expectations about what training can achieve.

> Don't expect that a computer course will teach you everything. It's an eye-opener.

A staff member with considerable computer knowledge and expertise repeated that sentiment.

> I cannot emphasize enough though that some of the support staff who go to these trainings, which are a day or two in length, come out of there expecting to know all aspects of the program. It just gets your feet wet; it exposes you to more prominent features of the program but you can't become expert at it without doing it day in and day out.

Fortunately administrators of the school recognize the

pivotal role that training can play if computers are to be used successfully.

An administrator noted:

> We should be able to computerize our scholarship monies but there I don't know if the current staff have the knowledge. But it seems to me that if we have the machine and the program and the computer, you can train them.

Generally staff would like more training on the computer to help them accomplish their tasks and give them more speed and comfort on the machines. Another staff member describes her experiences with training:

> When I first started I wasn't familiar with Microsoft Word so I did go for a training course. It was helpful - I went for the basic initial course and learned a lot from that but probably could have used even more advanced training. I even think with WordPerfect there's so much more I could do that I don't use. Underutilization - that's a frustrating piece for me.

As educators and trainers are well aware, people learn in different ways; some prefer to read about a topic, others like visual applications and displays. This worker is clear about how she prefers to access computer training:

First of all, I'm hands on. Don't give me manuals - don't give me articles, show me. I don't like to learn in the abstract. I very much believe in hands on.

Training Faculty

The quantitative data from students and faculty showed across the board support for additional faculty computer training. Not all faculty need to be computer experts. Basic knowledge about how computers can be used to help social work students and practitioners though is helpful to both faculty and their students. Recent studies (Pittman, 1994; Buckles, 1989) have examined faculty readiness to implement information technology and have found social work faculty to be receptive to computers once their utility and appropriateness have been shown. Trialability and observability have been documented as key factors in faculties' acceptance of computers. Even with visitations and pilot projects, however, it will be difficult for staff who have not experienced technology to be able to imagine its full potential (Hertzke & Olson, 1994, p. 53).

One worker gave a profile of faculty and their use of computers now:

As with any group of people some are more knowledgeable than others. There are people around here who spot an error or a typo and they lightly write with a pencil, like you're

going to erase it. There are those who though they are not very computer-literate do appreciate and understand what it's able to do. Some people don't have the concept that you can move paragraph A to page 19. So there's that group of people. Then there are the ones who are computer-ish, computer-philes to a degree.

A doctoral student shared this anecdote about faculty computer training at another college:

At the college where I teach it's come as you wish. And they get packed. If you don't call fast you don't get it because it has limited seating. They have a series of workshops with at least once a week. Every week they offer a different workshop and you can advance the levels so you can begin to train the faculty on the use of computers.

A faculty member made this observation about faculty training needs:

I think there are two things here. One is the lack of the computers. The second is because of the lack of computers I see it in this direction -- the lack of skill that faculty have in using them.

Immediate access to computers would certainly encourage faculty use especially if the ability to communicate with other members of the school through local e-mail and internet connections were included. Some interviewees reported on the widespread use and availability of computers at other schools. As the surveys showed, 82% of faculty would like a computer in their office. The following anecdote illustrates precisely how

that might be useful to faculty. A doctoral student spoke of the computers available to faculty at another school of social work.

> One of the things I was really impressed about in Indiana was that every professor had their own computer that was directly linked to the library. So that on your computer screen in your office you could access ERIC, Sociofile, Psychfile. Imagine how simple it would be for a professor constructing a bibliography, or working with a student having a hard time." Well, let's look at it..." and just bring it up on your own screen in your own office.

EDUCATION

Teaching Computers in Human Services

As the literature review revealed, several approaches for imparting information and skills to help social work students achieve a basic level of computer literacy have been put forth. The data from this study strongly support offering a course on computers in human services and several interviewees encouraged teaching about computers as early as possible so students have that advantage throughout their educational career.

There were opposing viewpoints expressed in terms of

whether such a course should be an elective or mandatory but students and faculty agreed that a course on computers in human services would be a welcome addition to the curriculum. No standardized approach has been adopted in schools of social work nor have any professional social work organizations or associations endorsed a particular model. Individual schools though have experimented with various paradigms to provide students with computer skills that are tailor made to social work education and practice.

A point established earlier is that the school has a separate computer lab with individual workstations and shared printers for students and faculty. This arrangement has been mentioned in the literature as advantageous due to its flexibility since faculty can conduct classes in the lab and give assignments requiring their students to access the computers in the lab on their own time (Hertzke & Olson, 1994).

This doctoral student made the following comments as to whether the school should offer a course on computers in human services:

I would definitely be interested in an elective on

computers to help demystify the whole thing. I would still take one after graduating because I still think I don't know enough. I'm still afraid I'm going to delete all my information. I would love something that could teach me and I could feel more confident.

Another doctoral student spoke up in favor of a course.

In some ways I think if Hunter offered a course at the school in WordPerfect it would be helpful. What people don't do enough is just offer the basics. For all these incoming students who are buying computers and are petrified, to have a wordprocessing class would be wonderful.

This student also felt a basic course would be preferable to an advanced course.

I would be interested in a course. My fear is that it would be too advanced. So I would have to check it out in advance. Because that's what's usually offered - advanced courses. If it was really for a beginner practitioner/research on a clinical and research level, I think that would be really interesting.

Discussions with faculty and staff indicated that by providing consumers with basic information about how the computer works, what it can do, and how to get around a computer system, some of the fears and anxiety that accompany computerization could be reduced if not eliminated. Providing people with even a basic understanding of the machine goes a long way in demystifying technology and encouraging people to train on their own or acquire additional knowledge and skills through a course. This information is key to successfully

planning for computerization in a human services environment. Other fields such as health and education have discovered that strategic planning and quality improvement efforts are easily strengthened by the provision of support and training at critical times in the change process (Hertzke & Olson, 1994).

TECHNICAL SUPPORT

The Services of a Computer Consultant

Training and education are fundamental building blocks for enabling people to become competent and confident computer users. Besides receiving training and teaching oneself about the computer, relying on the services of a computer consultant for technical support is another route to help people use a computer to achieve educational and administrative goals.

Until a cadre of trained social workers are available in schools of social work to help augment and design software programs for computer users, the services of a computer consultant are needed to expedite, refine and customize computer programs for administrators, faculty and staff. As previous interviewees have suggested, not all computer consultants are appropriate for such a key role. Soliciting the services of a computer consultant who is knowledgeable in

both computer systems and the mission and work of schools of social work, would be optimal for designing systems that meet the needs of their users.

Several faculty and staff were clear about their ongoing needs for a consultant as they discussed present successes and future needs.

This administrator acknowledged:

> We are desperately in need of our customized social work student information program to be finished, tested and implemented. I think that will make a major difference. But then we will begin to discover other areas where we won't know how to go about using computer technology to advance our ways of doing things. Occasionally things will come up where we need to know when we gave out a particular scholarship or when we purchased something. We'd probably need some assistance to computerize these things and I come back to the consultation thing - in order to do that we would probably need help in customizing a program.

Working with a consultant or anticipating working with a computer consultant can cause people to think about the kinds of products and information they would like the computer to organize. It clarifies user needs and helps identify specific tasks that need to be accomplished as part of the data collection and manipulation.

Here a staff person shares her vision of what she'd like computerized after having conducted several meetings with an outside computer consultant.

I don't know what the program would look like but it would have to be very complicated. I want to be able to first of all have current status of every student in the program, whether active or inactive. I'd want to know year of entry, any activity that they take during their time, anytime they drop something, add something or make any change at all in their academic activities. I want a list of all the advisors for each students and if they change advisors I want to know who and when. I want to be able to track their progress, their grades and keep everything confidential. We came up with this list after sitting down with the consultant and coming up with a list of our computer needs. We need to set up a database for our program.

CONCLUSION

This chapter has identified the primary themes which emerged from in-depth interviews with current and potential computer users in the school of social work. These themes clarify the core psychological issues social workers struggle with when attempting to live with computers. Integrating our understanding of these issues with what we know about introducing planned change in an organization comprises the basis for the strategic planning model articulated in this study and more fully outlined in the following chapter.

By addressing the experiences and concerns people have articulated within these interviews we can hope to avoid the pitfalls other schools have encountered and proactively plan for computing by maintaining realistic expectations;

supporting staff, students and faculty through equipment and training; representing all constituents in the planning process; acknowledging the process nature of this endeavor and neutralizing barriers to computerization as they have been identified.

Once past the intimidation and anxiety expressed at the onset of the interviews, participants spoke genuinely and critically about their experiences with technology in work and school. Their honest remarks constitute a focal point for gathering baseline data and establishing a platform for building a strategic planning model.

CHAPTER SIX

DISCUSSION AND IMPLICATIONS FOR PRACTICE

Introduction

This strategic planning model represents an effort to describe and refine a process for introducing computer technology in a school of social work. The usefulness of this study is to present school administrators and potential planners with a blueprint to address this issue and to encourage them to develop appropriate strategies for supporting computers in their respective environments based on the information presented herein.

The model provides consumers of information technology with an opportunity to share their experiences with computerization in a school of social work in quantitative terms and in their own voices. Moreover, it includes the experiences of the researcher cum planner and mines that data for additional insights and suggestions.

This chapter will review the research methods used in the study, the environment in which the project was conducted, and will put forth a series of guidelines for adapting a strategic planning methodology for computerization in a school of

social work. It will discuss the study findings and connect them to the recommendations contained in the chapter. It will also present a description of Total Quality Education (TQE), a paradigm for planning and implementing computer technology in schools that addresses training, developing new quality improvement paradigms and maintaining technology once it has been introduced to a school.

OVERVIEW OF RESEARCH METHODS

The use of strategic planning research methodology was the central practice/research intervention in this study. The use of in-depth focused interviews was paired with 3 quantitative, self-administered survey instruments to elicit relevant data on the school's use of computers and the attitude of consumers towards computers and future projected needs.

Interviews were based on pilot studies conducted by the author and observations that emerged from her own experiences as student, manager and researcher. Focused interviews were conducted with the following groups: doctoral students, clerical staff, professional staff, and full-time instructional faculty at the school. A total of nineteen

individuals were interviewed for the study.

The quantitative surveys were administered to 40 full-time instructional faculty, 15 second year doctoral students, and 60 second year, second semester research masters students. Twenty-eight faculty members responded, 11 DSW students and 48 MSW students. In total, 115 surveys were administered to students and faculty at the school.

DISCUSSION OF THE FINDINGS

Three streams of data were analyzed and interpreted as part of the process of generating recommendations and creating a model for the strategic planning process. The focused interviews represent one stream, the quantitative surveys represent another, and the write-in comments from the open-ended section of the surveys represent yet a third stream of data analyzed for insights and themes.

The data from the surveys show that most people who participated in the study accept the inevitability of computerization in schools of social work and in social work education. They not only accept computers but they want to know more about how computers can help them as social workers. Only a small number are opposed to furthering the use of

computers in social work administration, education and practice. No matter what their personal position on the use of computer technology in human services nearly all respondents agreed that students are at an advantage if they are familiar with computer applications in social work. In fact, most study participants already use computers, mostly for wordprocessing although growing numbers of students and faculty conduct computerized literature searches, use database applications and statistical programs. Administrative and clerical staff are mostly fluent in wordprocessing programs although they, too, expressed interest in expanding their repertoire of software applications to manage diverse areas such as student records, finances, grant applications, statistical information, field work placements, community organization programs and more. Some are enthusiastic about the possibilities computers create for teaching students, improving work flow, reducing paperwork and organizing information routinely used within the school. All however accept the inevitable role technology will play in social work education, practice and administration of the school of social work. While this study contains a small sample size it can be said that for this population, resistance to computers

appears to be a thing of the past.

Although people are using computers widely in the field of social work, it has often occurred incrementally, as in this school of social work rather than flowing from an overall vision of how computers can be used to help the school's constituents. The data show that 57% of faculty, 98% of masters students and 100% of doctoral students support a strategic planning approach. Forty-six percent of faculty, 45% of doctoral students and 23% of the masters students are willing to commit themselves to participating in a planning or oversight committee. Masters and doctoral students are generally more supportive than faculty although faculty demonstrated the most willingness to participate in a strategic planning committee. For the process to ultimately prove successful, participants should be voluntary and enthusiastic, genuinely interested in and concerned about the subject matter to be planned, in this case, computerization. Relying upon a few committed individuals to staff the strategic planning effort is preferable to drafting numerous people and forcing them to become involved.

IMPLICATIONS FOR PRACTICE

What do school of social work administrators, faculty and planners need to know about the strategic planning process for computerization? What factors strengthen the process and what inhibits the successful adaptation of computer technology to the social work education environment? Several significant implications can be derived from this investigation by analyzing the survey results and the contents of the semi-structured interviews. These points are listed below:

FACTORS THAT ENHANCE THE COMPUTERIZATION PROCESS

- Positive initial experiences with computers enhance the process of computerization within a school;
- Achieving small early successes with the computer encourages users to learn new and more sophisticated applications;
- Demonstrating the relevance of computer applications to a person's job or practice increases the likelihood of successful implementation;
- Involving a consultant early in the planning effort

helps ensure a smoother computerization process. The following options may be considered for obtaining the services of a computer professional:

1. Hire a permanent full-time computer professional
2. Include the computer professional as non-instructional faculty to make sure his/her services are easily accessed, to lend continuity to the computerization process and to insure that the individual understands the needs of the school.

PRACTICE RECOMMENDATIONS:

INTRODUCING COMPUTERS TO A SCHOOL OF SOCIAL WORK

- Students, faculty, administrative, professional and clerical staff - i.e. all potential computer users, should be represented in the planning process.
- Persons with disabilities should be represented in the planning process.
- Faculty are a linchpin between administration and students and as such, require adequate training and support to function effectively as computer advocates and

teachers.

- Students, staff and faculty welcome onsite training to improve their computer skills and demonstrate what computers can do for social workers.
- Students and faculty expect to use computers in their professional practice. They also anticipate that exposure to computer applications in social work practice can help them prepare for work realities and increase their marketability through the acquisition of specialized expertise.
- Planners, administrators and computer users in general need to maintain realistic expectations about computers as tools, and about what they can be expected to achieve. Computer use should be planned for with the mission and goals of the school of social work functioning as guiding principles.
- Schools need to budget adequately for the purchase and maintenance of quality equipment and support and for the necessary training and technical assistance for computer users.
- A monthly user's group should be created to promote group problem-solving, address skills training and save on the

hiring of trainers.

- Access to computers in the school of social work can be improved in several areas and these are as follows:

MPROVING ACCESS TO COMPUTERS IN A SCHOOL OF SOCIAL WORK

1. Conducting an orientation to the library computers for students and faculty.
2. Training the library aides in the library computer system so they can better assist consumers.
3. Increasing awareness of the school's computing facilities among students in particular, perhaps through presentations at student orientations, Common Days, or by publishing a guide to information technology at the school.
4. Making the computer lab more available, e.g., extending and publicizing available hours, adding a signup sheet, providing technical assistance and support. Students also recommended that special consideration for use of the lab be given to doctoral students in recognition of their increased research load.

NEEDS ASSESSMENT:

GATHERING INFORMATION AS A BASIC STEP IN THE PLANNING PROCESS

Gathering a basic level of information regarding constituents' needs, attitudes and experiences is a necessary component of the planning process. Planning for people may not result in the selection of equipment and training that adequately meets users' needs. Planning with people invites their active and voluntary participation in determining what is best for computer users individually and the school's information needs. It increases the likelihood that the computerization plan will reflect users' true needs, not an individual or committee's impression of users' needs. The needs assessment is also directed toward those who have already acquired a knowledge base in computers to share their expertise in selecting equipment, reviewing software programs, and contributing technical information to keep the planning effort up-to-date with changing technology.

Conducting a needs assessment fulfills dual purposes, then. It presents a clear picture of institutional strengths and weaknesses regarding the state of computer technology and

it also engages school constituents early in the planning process. As with any planned change process, change can be optimally achieved once the support and cooperation of key decision-makers and end-users, such as faculty, administrative staff and students has been obtained.

Adequate representation of these core constituents in the strategic planning process ensures that their voices continue to be heard once the initial data-gathering activities have taken place. Representing all current and potential computer users in the school, including persons with disabilities, allows planners to be aware of their diverse needs and encourages them to seek solutions through various means including users themselves. Strategic planning should be a holistic process that addresses the needs and concerns of everyone involved. Whether the issues are ones of physical and mental challenges, perhaps a learning disorder or a language problem, they should be included in the planning to plan effort along with full understanding about the legal and ethical requirements as set forth by the ADA.

CONSUMER INPUT:

RECOMMENDATIONS FOR THE PLANNING PROCESS

A valuable dimension of this mixed approach to developing a strategic planning model has been the opportunity to present recommendations for planning and change based on a "bottom-up" approach. Successful implementation of other computer systems in the human services context have relied on a similar approach as Briggs & Kindler (1993) report in their description of a management information system designed to serve family support service agencies. For this study, consumers of information technology at the school were interviewed, surveyed and invited to comment on the planning process for computerization in the school. The latter yielded data rich with pragmatic suggestions for planners which can be summarized as follows:

THEMES: CONSUMERS RESPOND TO THE PLANNING PROCESS

I. CONSUMER TRAINING AND DEVELOPMENT

II. FINANCIAL SUPPORT AND TECHNICAL ASSISTANCE

III. FINDING TIME TO PARTICIPATE IN THE PLANNING PROCESS

IV. EDUCATION IN COMPUTERS IN HUMAN SERVICES (CIHS)

V. IMPROVED COMMUNICATION & INFORMATION FLOW

These consumer recommendations dovetail nicely with the findings presented in chapters four and five. They strongly support the study's general findings regarding what elements support and strengthen the computerization process in a school of social work.

HOW CAN COMPUTERS HELP US AS SOCIAL WORKERS?

Even among computer-resistant students, faculty and administrative staff the call for education and training in computers is a strong one. Users are not only interested in learning concrete applications and acquiring technical mastery, they also seek to gain a broader understanding of how computers can be used in the social welfare realm. Eighty-nine percent of faculty would like to more about how computers can help them as social workers, 94% of masters students and 91% of doctoral students. Suggestions for facilitating those educational objectives ranged from offering elective courses on computers in human services, to providing in-service training sessions, to convening lunchtime seminars on key topics in computers, to the use of consultants to tailor systems for management as well as specific departments within the school. Despite some interviewees having claimed

otherwise during the focused interviews, the overwhelming majority of respondents showed a preference for receiving computer training onsite, at the school. Ninety-six percent of faculty prefer training onsite, 89% of masters students and 91% of doctoral students. During this study it became evident that time has become a precious commodity for students, staff and faculty. Generally everyone regards finding extra minutes to squeeze computer education in their schedule as a challenge. Therefore, offering training at the school is itself a supporting factor as it reduces travel time and breaks down another obstacle to consumers getting the training they both need and want.

When considering options for teaching computers in human services, the data in chapter four shows that 100% of doctoral students, 92% of masters students and 93% of faculty are already comfortable with using wordprocessing programs although some would like to enhance and expand their skills in that area. It would be important therefore to offer courses that illustrate how other computer applications are of service to social workers, such as database applications, clinical applications, desktop publishing tools, statistical and graphics packages. This sample represents only a portion of

the school's consumers and it is likely other students, faculty and staff would be interested in learning wordprocessing programs. Achieving success in one area such as a wordprocessing program can serve as a catalyst for trying new and more challenging computer applications.

In addition, the school needs to expand its collection of available resources on computers in human services for students, staff and faculty. A resource library should include a variety of software applications, tutorial programs, journals, books and manuals to promote self-instruction and teaching. Voluntary elective courses on computers in human services should be geared to the needs of masters and doctoral level students and graduates and other practitioners in the field seeking to update their skills and expand their repertoire of computer applications. A recommendation that this researcher made during this study was to include a virus-checking program on each piece of equipment to prevent accidental destruction or damage to files and machinery and to assure data protection through the use of passwords and codes.

A SPECIFIC ROLE FOR FACULTY IN COMPUTERIZING A SOCIAL WORK SCHOOL

Faculty undeniably feel strongly about the need to have computers in their own offices with 82% responding that it would help them to have a computer in their office. Time and again this was cited as a necessity with some faculty becoming so tired of waiting for the school to purchase equipment for them that they brought in their own machines from home. However as noted above, the mere provision of equipment without appropriate training and technical support is not sufficient to meet faculty needs. Faculty were unanimous in voicing their need for more training and education if they are to function as advocates and proponents of computers in human services. Faculty need to be able to refer students to appropriate resources and to have a basic level of knowledge of how computers are used in social work practice; how they might help students in collecting and organizing data, presenting research results and producing reports, statistics and documenting service delivery. As we look to establishing standards of practice regarding computer technology in the future, it would be helpful if faculty could achieve basic competence in at least wordprocessing to benefit themselves,

the school and their students. Given current educational trends it is likely that incoming students will have acquired such skills during their undergraduate education.

USING A COMPUTER CONSULTANT

Perhaps due to the recent and sometimes painful experience with a slow computerization process within the school, faculty were strongest (96%) in their support for a computer consultant compared with masters and doctoral students. The doctoral students were least supportive (73%) and masters students were very supportive (81%) of using a consultant. As the literature has shown, the key to the successful use of a consultant is contingent upon finding a consultant who is familiar or at least willing to become familiar with computer needs in social work education/administration; has a broad repertoire of computer knowledge and educational skills so that he/she can work with consumers to create a design that truly matches their needs and abilities; can encourage consumers to engage in a meaningful planning process to ensure that the end product is responsive to their actual needs; and possesses enough staying power to survive the process!

As mentioned earlier the option of hiring a full-time computer services specialist to coordinate ongoing computerization efforts within a school can provide continuity, accessibility and the ability to address changes in the system as they arise. The survey did not ask if respondents worked with consultants previously. A future study might address that factor and ask respondents to describe what the experience was like and how they might change or improve it.

FINANCE: A CRITICAL DIMENSION IN THE STRATEGIC PLANNING MODEL

Providing training and the services of a computer consultant are dependent upon successfully addressing the next theme that emerged from consumer recommendations, and that is, the issue of securing adequate funding for all the foregoing endeavors. Equipment, such as hardware, software, and printers; peripherals, such as modems, CD-ROM and interactive video command a heady investment as do trainers, manuals, on-line technical support, maintenance contracts and consultants. Faculty made numerous comments regarding the need to identify sources of support for the procurement of equipment and

computer consultants. Their prior experiences and awareness of the cost of investing in computer technology compelled them to reiterate the need to adequately finance computerization.

The provision of specialized adaptive equipment for the disabled adds to an already steep tab for computerization requiring the careful consideration of how to fund computerization and its requisite price tag in a school of social work. Several suggestions for addressing the financial component throughout the course of this study such as:

SUGGESTIONS FOR FINANCING COMPUTERIZATION

- Negotiate with computer vendors or software developers to test, pilot and evaluate programs in exchange for their free use and distribution.
- Include requests for computer-related needs in grants and applications for financial assistance throughout the school.
- Recycle used equipment and draw on software from free sources such as the "Shareware" domain.
- Provide faculty, students and staff with incentives and compensation for participating in the development,

implementation, and evaluation of software; in the training and education process and in the programming arena.

- Use nonprofit computer consulting firms to help with programming, on-site training, technical assistance and support.

These suggestions are not complete financing strategies by themselves yet they lead toward the solution of the some of the expenses incurred during the computerization process. Once the strategic planning process has been initiated, a committee convened and members delineated, identifying financial support and resources should become one of the responsibilities of the committee.

THE RESEARCHER AS PLANNER

Participating in this process mirrored my own past experiences of learning to work with information technology on the job and dealing with its positive attributes as well as its limitations. Prior experiences and the feelings they engendered helped me to develop questions, probes and ultimately insights into the experiences of those I

interviewed and surveyed. As the findings show, the school's varied constituents are generally supportive of computerization and are interested in learning how it can benefit them.

In drawing on my past experiences, a notable effort to promoting computer proficiency occurred where I was introduced to computers. A monthly user's group convened to brainstorm over shared problems and to address a new skill on the wordprocessing program. Each group member became skilled at a specific task and was responsible for training the group in carrying out that task. This method encourages group problem-solving, promotes learning and saves on the cost of a trainer by relying on human resources from within the group or organization. This recommendation is included along with the study results for addressing pressing training needs for students, staff and faculty. This is an especially important tool for administrative staff in terms of information sharing, skillbuilding and communication regarding computer applications. Administrative staff in a school of social work are continually required to produce, share and distribute information which can be more easily and quickly managed using various software applications. Statistical and database

management programs are useful for administrative staff who must continually respond to external sources such as NASA, CSWE and other agencies' demands for information on enrollment, demographics, field placements, alumni affairs, faculty publications, and accreditation.

In developing this strategic planning process it became apparent that people needed to be informed about what was being planned and why. Beyond the call for education and training it is imperative to launch an information and public relations campaign to promote staff involvement in the strategic planning process and commitment to its successful outcome. In this context, Sorrentino (1993) endorses the use of a publicity campaign to cite the advantages of automation and how quality and productivity can be improved through its use.

DEVELOPING A STRATEGIC PLANNING COMMITTEE

Once the school has decided to adopt a strategic planning research methodology to meet its computer needs, a planning committee should be convened to conduct and oversee the process. Data from this study support the need to keep the committee inclusive, representative of all consumers who will

be using computer applications in their work, study or research; to encourage members to remain committed to the process, and to keep the initial planning effort to a year in order not to lose momentum or members.

All respondents feel that students and faculty should be included in such a committee and it would be appropriate to add professional, clerical and administrative staff from the school. A case has been made for the need to adequately represent persons with disabilities in this process to obtain their viewpoints on the issue of matching equipment with abilities and consumers. All respondents were highly supportive of the need to address the potential problems computers can generate. Computer-literate masters students raised concerns about the potential damage computers can incur against clients in terms of information inequity, shifts in power and the lack of access poorer clients may have to computers. Frans (1993) states the case succinctly noting that until workers themselves are secure in their facility with computers, social work sponsorship of client access to the technology will proceed slowly (p.33).

TOTAL QUALITY EDUCATION:

EFFECTING CHANGE TO USE OF TECHNOLOGY AND QUALITY MANAGEMENT PRINCIPLES IN A SCHOOL

A significant amount of data has been collated, analyzed and interpreted to generate a broad spectrum of recommendations for promoting a strategic planning process. Consensus has been reached for using computers in social work education and administration, and the foregoing recommendations can be implemented to promote technology in a school of social work. Yet what type of framework can we employ to coordinate and facilitate this type of organizational change that will support the change effort, establish information and communication links, and hopefully reduce the fears and resistance that often are a part of organizational change? Hertzke and Olson (1994) have put forth a paradigm entitled Total Quality Education and applied it to the introduction of technology into school life. They describe the paradigm as follows:

> Total Quality Education (TQE) is a method of thinking about a problem and proposing unique applications of that philosophy or way of thought. Implementation of technology will be more

> successful when combined with a quality education approach that keeps the focus on the customer, the product, and the continuous improvement of the process to achieve quality. (p. 1)

This framework provides the strategic planning model with an overarching philosophy for meeting the needs for technology in the social work education/administration environment. The authors encourage those who engage in the strategic planning process to begin by asking the question, "How will technology improve the process of learning and thereby improve the quality of an education?" (ibid, p. 3). Although this paradigm is aimed at students the notion of regarding consumers as "customers" and tailoring the planning process to their needs can easily be applied to other school constituents such as faculty, administrative, professional and clerical staff. The focus in the planning process becomes the end user, the customer, the consumer, the person who will actually be utilizing technology to achieve a specified goal.

The authors, having defined their focus in this strategic planning effort, then describe a continuous quality improvement approach to monitoring the process for achieving change. They rely on the Shewhart Cycle developed by W.

Edwards Deming (Walton, 1986) to use empirical information in assessing quality improvement over time. The model consists of these steps:

a. it studies the process to hypothesize what might be improved;
b. it makes the changes on a small scale;
c. the effects are observed and measured; and
d. the results are analyzed in terms of expected outcomes and side effects. The cycle is then begun again.

This model acknowledges the cyclical nature of the planning process and with it comes the understanding that instituting technology is not an iterative process. It is ever-changing in terms of meeting user needs, responding to changes in available software, hardware and peripherals, and the context in which the technology is being used. The vicissitudes accompanying organizational change can create tension and anxiety among those who are most affected by the change. Hertzke and Olson (1994) propose several means for managing tension in the changing environment by recommending

that the following issues be attended to:

- Clearly stated vision and mission
- Support for risk taking
- Shared power and control of the process
- Reallocation of resources, time, and money to support change
- Attention to what is meaningful and aligned to the mission
- Recognition and celebration of successes

The need to establish a coordinating committee that functions as a team is paramount to addressing the change process within a school of social work. Much as a coalition must deal with tensions, member changes, power dynamics and changes in focus, a team must also struggle with these issues. Hertzke and Olson (1994) encourage strategic planning participants to work together and contend that the transition to a Total Quality Education format will become more comfortable if teachers (and students and staff) are able to work as team.

> The team should allow ample time to discuss the feelings that arise from new work modes. Teachers (students and staff) should also be reassured that change involves risk and that risk will occasionally result in failure. (p. 12)

As one doctoral student noted, the greatest drawback to interacting with computers is fear, particularly the fear of being ignorant. Risk taking, failure, along with the need to start over are all part of the process of adapting to computers. Allowing that understanding to envelop the change process frees participants to concentrate on the more pressing issues of quality improvement, user satisfaction and comfort with technology.

The literature has indicated that positive factors for introducing technology to social work delivery systems, in this case, a school, include supportive leadership and administration as well as the presence of computer "gurus". Hertzke and Olson make several points about what school administrations can do to facilitate this strategic planning process (1994, p. 19):

- Provide allocations in the budget to support the agreed-on changes

- Reallocate moneys from less effective practices to those emerging as promising
- Assign a member of staff to coordinate the change process
- Distribute documents that support and expand the thinking about change
- Develop common, consistent messages often repeated in public and targeted to different audiences such as students, teachers, staff
- Focus efforts over a span of several years
- Provide time - secure days for planning, observation and learning
- Share power and decision-making with team members

Two key attributes of this paradigm concern selecting technology and developing a training and development program for consumers. This study has emphasized that computers are a tool for enhancing the essential work that we do. Hertzke and Olson (1994) describe technology as a strategic decision on how to accomplish the learning goals of a school (p. 43). They further state that if technology is not easy to use and does not meet user needs, or make their work or research activities easier, there is little chance it will replace the

old way of doing things. Therefore the act of selecting technology is crucial if it is to succeed in its new environment.

The authors provide the following guidelines for selecting technology:

1 Identify instructional goals.

2 Identify possible roles for technology.

3 Identify criteria for selecting technology.

4 Identify available technology and vendors.

5 Compare available technology to criteria.

6 Evaluate finalists through a search of research literature.

7 Evaluate finalists with site visits and reference checks.

8 Invite vendors for an interview.

9 Determine service, support and cost.

10 Select technology system.

These guidelines will help to avoid the pitfalls of using unreliable consultants, buying technology which does not fit the needs of a variety of consumers, investing in technology that is too expensive or too complicated for user needs, and

only satisfying a minority of consumers or customers. An added piece to this selection process would be to visit technology systems that are already in place and successfully being used at other schools to determine what works for them and how they chose it. Broadening the information-gathering efforts to include other sites where computers are used and consulting with computer experts both inside and outside the system will maximize learning opportunities for this strategic planning process.

AREAS FOR FURTHER RESEARCH

This exploratory study examined the contemporary phenomenon of computerization in a school of social work. It uncovered valuable data about the quality and nature of computer use in the school and the attitudes and beliefs of the people who use them. This process consisted of conducting a literature review, needs assessment, data collection, and the design of a strategic planning model. Further research would include the acceptance of strategic planning research methodology as the means for coordinating and maintaining technology use within the school, the establishment of a strategic planning committee to oversee and carry out the

process, actual implementation of a strategic plan to facilitate computerization, and ultimate evaluation and redesign of the model as necessary.

It would be helpful to conduct in-depth focused interviews with the masters students who represent a significant population of consumers within the school. Surveying other area schools of social work to compare models for instituting computer technology would be another avenue to pursue to broaden planners' perspectives. Finally, surveying school of social work administrators and faculty nationwide to obtain their perspectives and experiences on computerization would expand the knowledge base of how schools of social work across the nation are dealing with the coming of technology in social work education and practice.

GENERALIZEABILITY

The focus of this case study is the planning process within one graduate school of social work. Due to the relatively small sizes of the sample populations used for this investigation, the findings are limited to the portion of the school's population represented in the study. However these

findings are useful in the context of generating theories for constructing a strategic planning model for school's with similar constituencies. Moreover the qualitative information-gathering employed in this study gave voice to the texture and depth of consumers' experience with organizational change of a sociotechnical nature.

LIMITATIONS OF THE STUDY

As the qualitative interviews revealed, people were often afraid and unwilling to be portrayed as uninformed or ignorant in terms of their knowledge about computers. Having conducted only one interview with each interviewee this researcher believes that ongoing interviews or focus groups may have alleviated some of the tension and fears built into the discovery process. Future planning efforts must encourage participants to air their views without fear of repercussion or censure from peers. Part of the development of the strategic planning model requires honest participation in describing one's needs, reactions, workloads, and perceptions in terms of using computer technology in the school. Therefore special attention should be paid to creating and maintaining a climate that encourages such free expression of opinions and

values especially since people tend to become self-conscious of their computer expertise or lack of it.

CHAPTER SEVEN

CONCLUSION

Introduction

Strategic planning models have been used successfully in business and nonprofit organizations to address organization change issues. This chapter summarizes this effort to develop a planning model for computerization in social work education. The study has applied strategic planning research methodology to the contemporary phenomenon of computer use in schools of social work. Unlike most previous work in this area however it considers the needs of all the school's constituents including clerical workers, professional staff, administrators and students and faculty. A school of social work has internal administrative and informational needs, external demands for information and accountability and the overriding mission to providing quality education for social work students. This comprehensive model attends to those internal and external needs and the attitudes and feelings of the participants involved in the sociotechnical change process.

PROJECT METHODS

A combination of methods was used to elicit data for building this strategic planning model. In-depth focused interviews along with three original survey instruments were employed to obtain a broad understanding of the current and projected use of technology in the school of social work and also user attitudes on technology in practice and education. This allowed for quantification of structured responses and investigation of the socioemotional and structural dimensions of managing the computerization process.

PROJECT MODEL

This research project has produced a strategic planning model for meeting the information technology needs in a school of social work. As such it not only addresses obvious gaps in training and education for students and faculty but for the rest of the school's constituents, too. The various cohorts in a school of social work comprise a mosaic of administrative, educational, research and clinical demands for technology in the service of social work education and practice. Previous patterns of relatively unplanned acquisition of computer equipment have not always been in the best interest of the

school and its computer users.

This model attends to the socioemotional adjustments to technology as a harbinger of significant organizational change. It has recommended a course of action to achieve a balanced assessment of consumer needs, budgetary concerns, time restraints and to consider the potentially detrimental effects computers can generate if information is carelessly amassed without thought to cost, confidentiality and purpose.

USE OF QUALITY IMPROVEMENT PARADIGM

A quality improvement paradigm was introduced as an overarching framework for the planning endeavor. Total Quality Education (TQE) designates education and work in the service of education as the primary mission of the school with computers functioning merely as tools to achieve the goals and objectives of the school. It requires the active and ongoing participation of carefully chosen and committed team members to conduct a process of information gathering, decision making, plan development, equipment selection, evaluation of the planning process, and re-design of the strategic plan as necessary.

DEMAND FOR TRAINING, EDUCATION AND SUPPORT

The data strongly indicate that appropriate training, technical support and financial resources must all be in place to fully propel users into the Information Age. Simply relying on wordprocessing applications to help human service practitioners is a serious underutilization of technology in this field. Seminars, user groups, tutorials and outside consultants will contribute to user comfort with computers, increase mastery of computer applications, and prepare faculty to act as advocates for the application of computers in human services.

COMPUTERIZATION AS AN ORGANIZATIONAL CHANGE PROCESS

A central element of this model has been to acknowledge and treat computerization as a social change process, not simply as a resource acquisition. The gradual adjustment of users to technology and the tailoring of programs to meet the unique needs of students, faculty, administrators and departments revolves around trial, experimentation, occasional failure and a willingness to take risks. Computer users experience dramatic emotional shifts due to real and perceived fears, status changes, the pressure to adapt rapidly to new

technologies, and a lack of information about what is being planned and why.

SUPPORTING FACTORS IN THE COMPUTERIZATION PROCESS

Administrative support and leadership are critical attributes to establishing a climate that encourages such experimentation, rewarding the efforts of staff and faculty for investing time and energy in the information technology arena, and providing the time in which to do so. Moreover, an information and public relations campaign dispels myths and inaccuracies about the computerization process which when left unchecked can create tension and unease among staff, faculty and students.

Other aspects of the structural dimension such as organizational dynamics, fiscal constraints, equipment selection, and available human resources must be taken into account to successfully carry out such a planning effort.

STRATEGIC PLANNING REQUIRES TEAMBUILDING AMONG CONSTITUENTS

Strategic planning for computerization in a school of social work requires a broad representation of school constituents to function as a team in developing a shared

vision of computer use in the coming years. It asks participants to learn about what computers can do for them, to consider how tasks they now complete manually might be better accomplished if automated, to select equipment and consultants based on a step-by-step rational process, and to create a safe climate for critical appraisal of the planning process as a whole.

APPLYING SOCIAL WELFARE POLICY AND PLANNING TOOLS TO THE STRATEGIC PLANNING FOR COMPUTERIZATION PROCESS

Technology today is not sufficiently developed to the stage where it can simply be bought off a shelf, plugged in and satisfy the computer needs of every potential user. The human dynamics present in organizational planning, needs assessment, decision making and problem resolution, all intrinsic elements of human service delivery systems, are welcome components of computerizing a school of social work. This strategic planning research methodology requires administrators, faculty, students and staff to grapple with the issue of technology much as they would any social problem or issue. It relies on group problem-solving and planning skills using a bottom-up approach to clarify the issue, plan

for its resolution over several years, and demonstrate a willingness to examine the results and begin the planning cycle anew.

Data amassed from these interviews and surveys reveal that the school's constituents accept the presence and use of technology in the school. They appreciate the marketability it provides students and practitioners in terms of added skills and the ability to streamline labor-intensive workloads for faculty and staff. This model contributes to knowledge development in the area of social work education and school of social work administration. The framework presented should serve as a guide for other schools seeking to meet the computer needs of administrative, professional and clerical staff as well as addressing the educational needs of students and faculty. Future studies will help determine whether a trend toward accepting computers has begun and if resistance to computerization is becoming a thing of the past.

Office of Research Administration
Phone (212) 772-4020
Fax (212) 772-4941

HUNTER

Committee for the Protection of Human Subjects from Research Risks

To: Judith Bloch
c/o Irwin Epstein
Social Work

From: Robert J. Buckley

Date: May 10, 1993

Re: Human Subjects Review

Project: "A Strategic Planning Model for Meeting the Information Needs in a School of Social Work"

The Hunter College Committee for the Protection of Human Subjects has approved your project.

Good luck with your work!

cc: Hans Spiegel

Interview Schedule

Hello, my name is Judy Bloch and I'm a doctoral student at Hunter College School of Social Work. I'm carrying out this research to better understand how people feel about having computers in the social work environment. I'd like you to answer a few questions as honestly as possible. This interview will be completely confidential. Thank you for your participation in this research project. Please be assured you may discontinue at any time. Before we begin, do you have any questions?

1. Please describe your position. Could you explain to me your major responsibilities and functions?

2. What were some of the feelings that you had when computers were first introduced here? (Probe - how did you react, what did it feel like, how would you describe your feelings?)

3. Could you describe for me how computers are used here? (If yes, what for - please describe as fully as you can. If no, are there plans to computerize in the future?)

4. Do you use computers in your practice? (probe - is this use "hands-on", do others such as clerical staff have primary contact with computers?)

a. What goals did administration/supervisors/clinicians have in mind when they introduced computers?
(probe - how do you feel about those goals - are they realistic, achievable, do they meet your needs?)

5. Could you describe for me what the process of computerization was like for you? (elaborate on feelings; what could have made it easier or better or worse; how did you feel about how the process was handled?)

6. Have your feelings changed during the process? (If so, how - if not, reiterate your feelings here.) _____

7. How do you feel about your role as _____ and the use of computers? (i.e. did you expect to use them, how do you feel about that?)

8. Have you felt much of an impact due to computerization?

Interview Guide - Page Two

8.a. Do you find that you do things differently now that computers are here? (what - could you please describe for me.)

9. Is there anything else you would like to tell me about how you feel about computers in your workplace?

Thank you again for your participation in this study.

HUNTER COLLEGE
of The City University of New York
School of Social Work • 129 East 79th Street, New York, N.Y. 10021 • (212) 452-7085

Office of the Dean

TO: Faculty and Staff

FROM: Bogart R. Leashore, Dean Bogart R. Leashore

RE: Planning for Computer Needs at HCSSW

DATE: March 4, 1993

****

Judy Bloch is a student in our doctoral program and is preparing to begin her dissertation project here at the school. The focus of her project is planning for the present and future computer needs of HCSSW. Among other information gathering and planning activities, Judy will be interviewing faculty, professional and support staff as well as students in both the master's and doctoral programs to study current computer uses and our future needs. In addition, she will be collaborating with Harriet Goodman in surveying the uses of computers in other schools of social work and other technological advances in the field. Although participation in the project is voluntary, I encourage your cooperation. Information gathered will be kept anonymous and confidential.

I will introduce Judy to you at a future meeting where she will describe her project in greater detail. Please give her your full cooperation in this important planning effort.

Thank you for your assistance and cooperation.

MEMORANDUM

DATE: June 16, 1993

TO: Bogart Leashore, PhD, Dean

FROM: Judy Bloch, Doctoral Student

RE: Virus Checkers

In the course of my dissertation research it has come to my attention that the computers in the wordprocessing department are not currently protected by virus-checking programs. Since faculty and staff routinely copy diskettes to and from these computers, it is worth investing in virus-checking programs for each machine to avoid the real risks involved.

Thank you.

cc: Irwin Epstein, Faculty Advisor & Dissertation Chairperson

January 5, 1994

Dr. Harold Weissman
Executive Officer, DSW Program
Hunter College School of Social Work
129 E. 79th St.
New York, NY 10021

Dear Harold:

As you know, my doctoral research consists of a strategic planning model for incorporating computers at HCSSW. I am writing to obtain your permission to survey the current first and second year doctoral students regarding their attitudes and opinions about information technology use in the school. A copy of the proposed survey is enclosed for your review. If possible, I would like to administer the survey in February of this year.

The surveys will be voluntary and anonymous and I believe the doctoral students would contribute significantly to my research. If you have any questions, please call me at 516-371-4347. Thank you and have a happy New Year.

Sincerely,

Judy Bloch, MSW
Doctoral Candidate

encls.

Dear Colleague:

Social work education is undergoing a process of innovation and change thanks in part to the introduction of computers to human services. For my doctoral research I am developing a strategic planning model for incorporating information technology into the Hunter College School of Social Work. I invite you to participate in this project by completing the attached questionnaire. Your participation is strictly voluntary and highly valued. Your feedback is very important whether or not you are an active computer user.

Please take the time to fill out this questionnaire and return it to me. All responses will be kept confidential and no individual will be identified in the research report. To protect subjects, names will be coded. Responses which, by an extreme nature, may inadvertently reveal the interviewee, may be omitted or reported in such a fashion to protect the subject's anonymity. Following data analysis, the findings will be presented to the dean in a written report. Five (5) copies of the report will be placed on reserve in the HCSSW library for student, faculty and staff review after June 15, 1994.

With much appreciation,

Judy Bloch, MSW
DSW Candidate, HCSSW

I understand these instructions and the information provided, and do agree to participate in the research described.

_____ _____

Name **Date**

STRATEGIC PLANNING FOR COMPUTERS: FACULTY SURVEY
HUNTER COLLEGE SCHOOL OF SOCIAL WORK

I. **GENERAL** - This section is designed to elicit general information about you as a social work educator and to gather basic demographics on the HCSSW faculty as a group.

1. Years of full-time teaching experience: _____years

2. Faculty rank (check one):
   - 01 ☐ Instructor/lecturer
   - 02 ☐ Assistant Professor
   - 03 ☐ Associate Professor
   - 04 ☐ Full Professor
   - 05 ☐ Other (please specify): _____

3. Areas of teaching/practice expertise (check all that apply.):
   - 01 ☐ Administration
   - 02 ☐ Community Organization
   - 03 ☐ Policy and Planning
   - 04 ☐ Research
   - 05 ☐ Social Casework
   - 06 ☐ Social Group Work
   - 07 ☐ Aging
   - 08 ☐ Child Welfare
   - 09 ☐ Criminal Justice
   - 10 ☐ Developmentally Disabled
   - 11 ☐ Family Services
   - 12 ☐ Health
   - 13 ☐ Mental Health
   - 14 ☐ Occupational
   - 15 ☐ School-Based
   - 16 ☐ Substance Abuse
   - 17 ☐ Other (please specify): _____

4. Highest degree:
   - 01 ☐ MSW
   - 02 ☐ DSW
   - 03 ☐ PhD
   - 04 ☐ Other(please specify): _____

5. Year doctorate obtained: _____

6. School from which doctorate obtained: _____

7. Please indicate if you or someone else utilized a computer in completing your doctorate. ☐ Yes ☐ No If yes, please indicate how it was used and who used it.

APPLICATION	COMPUTER USER		
	SELF	FACULTY CONSULTANT	OTHER CONSULTANT
On-line services, e.g. literature search			
Create a database			
Quantitative data analysis			
Qualitative data analysis			
Statistics (SPSS)			
Wordprocessing			
Other (please specify):			

II. COMPUTER USAGE

1. Do you currently use a computer? ☐ Yes ☐ No

2. If yes, where do you use the computer? (check all that apply.)

01 ☐ Home
02 ☐ Office at HCSSW
03 ☐ HCSSW Lab
04 ☐ Hunter College (68th St.)
05 ☐ None
06 ☐ Other (please specify):

3. Please indicate the type of computer(s) you use. (check all that apply.)

01 ☐ IBM Compatible
02 ☐ McIntosh/Apple
03 ☐ Mainframe/Mini
04 ☐ Modem
05 ☐ Video/Multimedia
06 ☐ Laptop
07 ☐ None
08 ☐ Other (please specify): _____

4. Please indicate below which computer applications you can use now and which would you like to know how to use in the future. (check all that apply.)

TYPE OF APPLICATION	CAN USE NOW	WOULD LIKE TO KNOW HOW TO USE IN THE FUTURE
01 Wordprocessing		
02 Spreadsheets		
03 Literature Search		
04 Databases		
05 Statistical Packages (e.g.spss)		
06 Qualitative Research		
07 Tutorial Programs		
08 Video Interactive		
09 Games & Simulations		
10 Desktop Publishing		
11 E-Mail/Communication		
12 Clinical Software		
13 Programming Languages		
14 Expert System		
15 Decision Support System		
16 None		
17 Other (please specify): _____		

III. ATTITUDES - This section focuses on your attitudes toward computer use in human services and in social work education. Use the scale below to rate each statement from 1 (strongly disagree) to 5 (strongly agree) to indicate your response. Please circle the number that best represents your beliefs.

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
a. Faculty have adequate access to computers.	1	2	3	4	5
b. Students have adequate access to computers.	1	2	3	4	5
c. I am comfortable talking to students about how computer applications can be used in social work.	1	2	3	4	5
d. Students are at an advantage if they know about computer applications for human services.	1	2	3	4	5
e. Technology exerts a dehumanizing effect on social service delivery.	1	2	3	4	5
f. Computers have no place in social work education.	1	2	3	4	5
g. I would like to know more about how computers can help me as a faculty member.	1	2	3	4	5
h. A course on computers in human services would benefit students.	1	2	3	4	5
i. Faculty have adequate opportunities for learning about computers in human services.	1	2	3	4	5
j. Computers will not replace educators in the teaching process.	1	2	3	4	5

to know about computers in their practice.	1	2	3	4	5
l. Social service agencies will rely increasingly on computers in the coming years.	1	2	3	4	5
m. Computer technology can be adapted to meet the needs of social work educators.	1	2	3	4	5
n. Faculty should be compensated for time spent learning and teaching about computers.	1	2	3	4	5
o. I need information that is currently hard to access from "manual systems".	1	2	3	4	5
p. I would like to communicate with other faculty members and schools using the computer.	1	2	3	4	5
q. It would help me to have a computer in my office.	1	2	3	4	5
r. I am willing to teach myself new computer applications.	1	2	3	4	5
s. I am comfortable using the computer system in the library.	1	2	3	4	5
t. Faculty are less resistant now to computers than five years ago.	1	2	3	4	5
u. Student records, academic information, alumni and field work data should be fully computerized.	1	2	3	4	5
v. Computerization will help to reduce the labor-intensive nature of our work.	1	2	3	4	5
w. Computers need to be more user-friendly before faculty and students can be expected to use them.	1	2	3	4	5

IV. PLANNING FOR COMPUTERS IN THE SCHOOL OF SOCIAL WORK - The following section seeks your input in how best to plan for computer technology and its use within the school of social work. Please continue to use the same five point scale and circle the number that best represents your beliefs.

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
a. Strategic planning will assist the school in preparing for computerization.	1	2	3	4	5
b. Faculty input is necessary to plan for computers in the school of social work.	1	2	3	4	5
c. Student input is necessary to plan for computers in the school of social work.	1	2	3	4	5
d. Faculty need more training to fully understand the potential for computers for themselves, for students and for the school.	1	2	3	4	5
e. The current opportunities for computer training at 68th St. are adequate.	1	2	3	4	5
f. I would prefer computer training on-site at the School of Social Work.	1	2	3	4	5
g. The school could benefit from the ongoing services of a computer consultant who understand the needs of faculty, students and staff.	1	2	3	4	5
h. I would join a computer users group for support and information.	1	2	3	4	5
i. I have adequate time to receive computer training.	1	2	3	4	5

j. We need to improve the system for promptly disseminating information both inside and outside the school of social work.	1	2	3	4	5
k. A computerized information system would help to improve the dissemination of information, such as e-mail or an electronic bulletin board message system.	1	2	3	4	5
l. The school will benefit from a committee to plan for and oversee computer applications.	1	2	3	4	5
m. I would participate in such a "Computer Planning Committee" to look at how computers are used in the school.	1	2	3	4	5
n. A planning committee should address the potential problems computers can generate for the school and its constituents.	1	2	3	4	5
o. I need to know more about what computers can do in order to be part of a strategic planning process.	1	2	3	4	5
p. Computers at HCSSW need to be enhanced so that persons with disabilities can use them effectively.	1	2	3	4	5

q. If you are a person with a disability, please indicate the nature of your disability: _____

r. Please add any additional comments regarding how the school can best plan for computerization below.

THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY!

INFORMED CONSENT FORM

Dear Doctoral Student:

My name is Judy Bloch and I am a doctoral student here at Hunter College School of Social Work. My dissertation involves developing a plan for using computers at HCSSW. I welcome your input as to how you use or would like to use a computer as well as your attitudes about computers, particularly in social work and social work education.

Your participation in this research project is strictly voluntary and anonymous. All results will be kept confidential. There is no penalty if you choose not to participate in the study. Also, you may withdraw from completing the questionnaire at any time.

Following data collection and analysis, I will present the findings of this research in a written report to the dean. Five (5) copies of the report will be placed on reserve in the HCSSW library for student, faculty and staff review after June 15, 1994.

Please complete the questionnaire **even if you are not now an active computer user** - your thoughts and opinions are important in the planning to plan process. The results of this project will be of use to Hunter College School of Social Work as well as other schools of social work that are planning to introduce or expand their use of computers. I am happy to discuss any questions you have about this research project.

Thank you for your consideration and cooperation.

Sincerely,

Judy Bloch, MSW
Doctoral Candidate

I understand these instructions and the information provided, and do agree to participate in the research described.

_____ _____

Signature ***Date***

If you would like a copy of this informed consent form, please contact me in care of the Doctoral Program office at HCSSW - (212) 452-7048.

INFORMED CONSENT FORM

Dear Student:

My name is Judy Bloch and I am a doctoral student here at Hunter College School of Social Work. My doctoral dissertation involves developing a plan for using computers at HCSSW. I welcome your input as to how you use or would like to use a computer as well as your attitudes about computers, particularly in social work and social work education.

Your participation in this research project is strictly voluntary and anonymous. All results will be kept confidential. There is no penalty if you choose not to participate in the study. Also, you may withdraw from completing the questionnaire at any time.

Following data collection and analysis, I will present the findings of this research in a written report to the dean. Five (5) copies of the report will be placed on reserve in the HCSSW library for student, faculty and staff review after June 15, 1994.

Please complete the questionnaire **even if you are not now an active computer user** - your thoughts and opinions are important in the planning to plan process. The results of this project will be of use to Hunter College School of Social Work as well as other schools of social work that are planning to introduce or expand their use of computers. I am happy to discuss any questions you have about this research project.

Thank you for your consideration and cooperation.

Sincerely,

Judy Bloch, MSW
Doctoral Candidate

I understand these instructions and the information provided, and do agree to participate in the research described.

_____ _____

Signature *Date*

If you would like a copy of this informed consent form, please contact me in care of the Doctoral Program office at HCSSW - (212) 452-7048.

STRATEGIC PLANNING FOR COMPUTERS: DOCTORAL STUDENT SURVEY
HUNTER COLLEGE SCHOOL OF SOCIAL WORK

I. GENERAL

1. Year bachelors degree obtained: _____

2. Year masters degree obtained: _____

3. Please indicate your areas of practice/teaching expertise (check all that apply.):

01 ☐ Administration
02 ☐ Community Organization
03 ☐ Policy and Planning
04 ☐ Research
05 ☐ Social Casework
06 ☐ Social Group Work
07 ☐ Aging
08 ☐ Child Welfare
09 ☐ Criminal Justice
10 ☐ Developmentally Disabled
11 ☐ Family Services
12 ☐ Health
13 ☐ Mental Health
14 ☐ Occupational
15 ☐ School-Based
16 ☐ Substance Abuse
17 ☐ Other (please specify): _____

4. Did you use a computer in completing your undergraduate or graduate education? 01 ☐ Yes 02 ☐ No

5. If yes, what type of computer applications did you use? (check all that apply.)

01 ☐ Wordprocessing
02 ☐ Database
03 ☐ Spreadsheet
04 ☐ On-Line services (e.g.literature search)
05 ☐ Statistics
06 ☐ Other (please specify): _____

II. COMPUTER USAGE

1. Where do you currently use a computer? (check all that apply.)

01 ☐ Home
02 ☐ Agency
03 ☐ HCSSW Lab
04 ☐ Hunter College/68th St.
05 ☐ None
06 ☐ Other (please specify): _____

2. What type of computer do you use? (check all that apply.)

01 ☐ IBM Compatible
02 ☐ McIntosh/Apple
03 ☐ Mainframe/Mini
04 ☐ Modem
05 ☐ Video/Multimedia
06 ☐ Laptop
07 ☐ None
08 ☐ Other (please specify): _____

] (continue on next page)

3. Which computer applications can you use now and which would you like to know how to use in the future? (check all that apply.)

TYPE OF APPLICATION	CAN USE NOW	WOULD LIKE TO KNOW HOW TO USE IN THE FUTURE
01 Wordprocessing		
02 Spreadsheets		
03 Literature Review		
04 Databases		
05 Statistical Packages		
06 Qualitative Research		
07 Tutorial Programs		
08 Video Interactive		
09 Games & Simulations		
10 Desktop Publishing		
11 E-Mail/Communication		
12 Clinical Software		
13 Programming Languages		
14 None		
15 Other (please specify):		

III. ATTITUDES - This section focuses on your attitudes toward computer use in human services and in social work education. Please complete this section **even if you are not now a computer user.** Use the scale below to rate each statement from 1 (strongly disagree) to 5 (strongly agree) to indicate your response. Please circle the number that best represents your beliefs.

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
a. Students have adequate access to computers.	1	2	3	4	5
b. I understand how computers can be used in social work.	1	2	3	4	5
c. Students are at an advantage if they know about computer applications in human services.	1	2	3	4	5
d. Technology exerts a dehumanizing effect on social service delivery.	1	2	3	4	5

 (continue on next page)

e. Computers have no place in social work education.	1	2	3	4	5
f. I would like to know more about how computers can help me as a social worker.	1	2	3	4	5
g. A course on computers in human services would benefit students.	1	2	3	4	5
h. Students have adequate opportunities for learning about computer use in human services.	1	2	3	4	5
i. Computers will not replace practitioners in the helping process.	1	2	3	4	5
j. I anticipate a need to know about computers in my future social work practice.	1	2	3	4	5
k. Social service agencies will rely increasingly on computers in the coming years.	1	2	3	4	5
l. I would like to communicate with other students, information sources or schools using the computer.	1	2	3	4	5
m. I am willing to teach myself new computer applications.	1	2	3	4	5
n. I am comfortable using the computer system in the library.	1	2	3	4	5
o. Students are less resistant now to computers than five years ago.	1	2	3	4	5
p. Student records, academic information, alumni and field work data should be fully computerized.	1	2	3	4	5
q. Computerization will help to reduce the labor-intensive nature of social work.	1	2	3	4	5

3 (continue on next page)

r. Computers need to be more user-friendly before faculty and students can be expected to use them.	1	2	3	4	5
s. Computerized client records would help me to manage client information more easily and efficiently.	1	2	3	4	5
t. I write most of my assignments and papers using a wordprocessor.	1	2	3	4	5
u. I chose the field of social work to work with people, not with high technology.	1	2	3	4	5
v. Computers are used at my field placement.	1	2	3	4	5
w. I believe it will be difficult to conduct social work research using a computer.	1	2	3	4	5
x. It takes a while to become comfortable using a computer.	1	2	3	4	5

IV. PLANNING FOR COMPUTERS IN THE SCHOOL OF SOCIAL WORK

The following section seeks your input in how best to plan for computer technology use within the school of social work. Please continue to use the five point scale to indicate your response. Please respond to each question even if you are not now a computer user.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
a. Strategic planning will assist the school in preparing for computerization.	1	2	3	4	5
b. Faculty input is necessary to plan for computers in the school of social work.	1	2	3	4	5

4 (continue on next page)

c. Student input is necessary to plan for computers in the school of social work.	1	2	3	4	5
d. Faculty need more training to fully understand the potential for computers for themselves, for students and for the school.	1	2	3	4	5
e. I would prefer computer training on-site at the school of social work.	1	2	3	4	5
f. The school could benefit from the ongoing services of a computer consultant who understands the needs of faculty, students and staff.	1	2	3	4	5
g. I would join a computer users group for support and information.	1	2	3	4	5
h. I have adequate time to train on a computer.	1	2	3	4	5
i. We need to improve the system for promptly disseminating information both inside and outside the school of social work.	1	2	3	4	5
j. A computerized information system would help to improve the dissemination of information such as e-mail or an electronic bulletin board message system.	1	2	3	4	5
k. The school will benefit from a committee to plan for and oversee computer applications.	1	2	3	4	5
l. I would participate in such a 'Computer Planning Committee' to look at how computers are used in the school.	1	2	3	4	5

 (continue on next page)

m. A planning committee should address the potential problems computers can generate for the school and its constituents. 1 2 3 4 5

n. I need to know more about what computers can do in order to be part of a strategic planning process. 1 2 3 4 5

o. Computers at HCSSW need to be enhanced so that persons with disabilities can use them effectively. 1 2 3 4 5

p. If you are a person with a disability, please state the nature of your disability:

_____

q. Please add any additional comments below regarding how the school can best plan for computerization.

r. My age is _____

s. I am a:

- ☐ 1st year doctoral student
- ☐ 2nd year doctoral student
- ☐ Other (please specify): _____

THANK YOU FOR YOUR PARTICIPATION IN THIS SURVEY!

STRATEGIC PLANNING FOR COMPUTERS: STUDENT SURVEY
HUNTER COLLEGE SCHOOL OF SOCIAL WORK

I. GENERAL

1. Year bachelors degree obtained: _____

2. Please indicate your major:

01☐ Administration
02☐ Casework
03☐ Community Organization
04☐ Group Work

2.a. If you are an administration major,please indicate your minor: _____

3. Please indicate your field of practice:

01☐ Education & Community Development
02☐ Family, Youth, Adult
03☐ Protection & Social Justice
04☐ Social Health
05☐ World of Work

4. Did you use a computer in completing your undergraduate or graduate education? 01☐ Yes 02☐ No

5. If yes, what type of computer applications did you use? (check all that apply.)

01☐ Wordprocessing
02☐ Database
03☐ Spreadsheet
04☐ On-Line services (e.g.literature search)
05☐ Statistics
06☐ Other (please specify): _____

II. COMPUTER USAGE

1. Where do you currently use a computer? (check all that apply.)

01☐ Home
02☐ Agency
03☐ HCSSW Lab
04☐ Hunter College/68th St.
05☐ None
06☐ Other (please specify): _____

2. What type of computer do you use? (check all that apply.)

01☐ IBM Compatible
02☐ McIntosh/Apple
03☐ Mainframe/Mini
04☐ Modem
05☐ Video/Multimedia
06☐ Laptop
07☐ None
08☐ Other (please specify): _____

1 (continue on next page)

3. Which computer applications can you use now and which would you like to know how to use in the future? (check all that apply.)

TYPE OF APPLICATION	CAN USE NOW	WOULD LIKE TO KNOW HOW TO USE IN THE FUTURE
01 Wordprocessing		
02 Spreadsheets		
03 Literature Review		
04 Databases		
05 Statistical Packages		
06 Qualitative Research		
07 Tutorial Programs		
08 Video Interactive		
09 Games & Simulations		
10 Desktop Publishing		
11 E-Mail/Communication		
12 Clinical Software		
13 Programming Languages		
14 None		
15 Other (please specify):		

III. ATTITUDES - This section focuses on your attitudes toward computer use in human services and in social work education. Please complete this section **even if you are not now a computer user.** Use the scale below to rate each statement from 1 (strongly disagree) to 5 (strongly agree) to indicate your response. Please circle the number that best represents your beliefs.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

a. Students have adequate access to computers.	1	2	3	4	5
b. I understand how computers can be used in social work.	1	2	3	4	5
c. Students are at an advantage if they know about computer applications in human services.	1	2	3	4	5
d. Technology exerts a dehumanizing effect on social service delivery.	1	2	3	4	5

 (continue on next page)

e. Computers have no place in social work education.	1	2	3	4	5
f. I would like to know more about how computers can help me as a social worker.	1	2	3	4	5
g. A course on computers in human services would benefit students.	1	2	3	4	5
h. Students have adequate opportunities for learning about computer use in human services.	1	2	3	4	5
i. Computers will not replace practitioners in the helping process.	1	2	3	4	5
j. I anticipate a need to know about computers in my future social work practice.	1	2	3	4	5
k. Social service agencies will rely increasingly on computers in the coming years.	1	2	3	4	5
l. I would like to communicate with other students, information sources or schools using the computer.	1	2	3	4	5
m. I am willing to teach myself new computer applications.	1	2	3	4	5
n. I am comfortable using the computer system in the library.	1	2	3	4	5
o. Students are less resistant now to computers than five years ago.	1	2	3	4	5
p. Student records, academic information, alumni and field work data should be fully computerized.	1	2	3	4	5
q. Computerization will help to reduce the labor-intensive nature of social work.	1	2	3	4	5

3 (continue on next page)

r. Computers need to be more user-friendly before faculty and students can be expected to use them.	1	2	3	4	5
s. Computerized process recordings would help me to manage client information more easily and efficiently.	1	2	3	4	5
t. I write most of my assignments and papers using a wordprocessor.	1	2	3	4	5
u. I chose the field of social work to work with people, not with high technology.	1	2	3	4	5
v. Computers are used at my field placement.	1	2	3	4	5
w. I have anxiety about using computers in the research course this semester.	1	2	3	4	5
x. I believe it will be difficult to conduct social work research using a computer.	1	2	3	4	5
y. It takes a while to become comfortable using a computer.	1	2	3	4	5

IV. PLANNING FOR COMPUTERS IN THE SCHOOL OF SOCIAL WORK

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	1	2	3	4	5
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4 (continue on next page)

c. Student input is necessary to plan for computers in the school of social work.	1	2	3	4	5
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f. The school could benefit from the ongoing services of a computer consultant who understands the needs of faculty, students and staff.	1	2	3	4	5
g. I would join a computer users group for support and information.	1	2	3	4	5
h. I have adequate time to train on a computer.	1	2	3	4	5
i. We need to improve the system for promptly disseminating information both inside and outside the school of social work.	1	2	3	4	5
j. A computerized information system would help to improve the dissemination of information such as e-mail or an electronic bulletin board message system.	1	2	3	4	5
k. The school will benefit from a committee to plan for and oversee computer applications.	1	2	3	4	5
l. I would participate in such a "Computer Planning Committee" to look at how computers are used in the school.	1	2	3	4	5

5 (continue on next page)

m. A planning committee should address the potential problems computers can generate for the school and its constituents. 1 2 3 4 5

n. I need to know more about what computers can do in order to be part of a strategic planning process. 1 2 3 4 5

o. Computers at HCSSW need to be enhanced so that persons with disabilities can use them effectively. 1 2 3 4 5

p. If you are a person with a disability, please state the nature of your disability: _____

q. Please add any additional comments below regarding how the school can best plan for computerization.

r. I am a:

- ☐ 1st year 2-year MSW student
- ☐ 2nd year 2-year MSW student
- ☐ One Year Residency student, timephase 1
- ☐ One Year Residency student, timephase 2
- ☐ One Year Residency student, timephase 3

s. My age is _____

THANK YOU FOR YOUR PARTICIPATION IN THIS SURVEY!

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