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# New Technology in the Human Services


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# Contents



*New Technology in the Human Services* is a quarterly journal devoted to the disemmination of information about the application of information and information technology in the human services.





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## *Submissions to the journal*

We welcome papers, articles and reviews from both academics and practitioners. Please read the guidelines for contributors on the back inside cover and do not hesitate to contact the editor.

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# Up Front



## Inside this issue

I have long been associated with both this journal and the field of communications and information technology in the human services. Yet it is with some trepidation that I take over the main editorial role of this journal. The future of paper based journals is currently a very live issue. Globally publishers are taking on the challenge and realising that an on-line presence on the Internet is necessary. Some, more cautious than others, are restricting their presence to subscription information and guidance on writing for their journal, others are providing an abstract service and listing contents of current and past issues. The more adventurous have moved to both a paper based journal and a full text on-line journal, password protected and providing the added value of direct links to associated sites. The most adventurous are new journals which have opted for only an Internet presence such as Sociological Research Online at http://kennedy.soc.surrey.ac.uk/socresonline/

The editorial team of New Technology in the Human Services have also been considering the future and the results of our modest attempt to consult our readers and others is presented in this issue. We are in the midst of discussions which hopefully will see full text papers of past volumes of NTHS on-line at no extra cost to subscribers and hope to publish details of this new service in the next copy of the journal.

We have a truly transatlantic edition with one paper from the UK, two papers from the US and one an Israel/US collaboration. The overall theme of the contributions focuses on evaluation of initiatives taking in both academia and practice.

Rami Benbenishty and Rita Turner-Sheerin report on a study of user feedback on an integrated information system for foster care. It is a welcome addition to research in the area of practitioner take up of information systems in that it reports a positive finding. The paper thus provides a challenge to the oft cited assumption of computer phobia amongst social workers. The paper reinforces the importance of information systems not only meeting identified needs but also of user involvement in development and implementation, alongside strong management support.

The second paper by Feit, Jackson and Cranch takes us firmly into post modernist education delivery with an account of how two universities developed a joint academic programme based on the use of distance learning technologies. This is one of two papers in the issue where the focus has moved on from the 'wouldn't it be good' school to the 'this is how we went about it and this is what we had to think about'. Both Collaborative Professional Graduate Education: A Joint Master of Social Work Degree Program and the paper by Tweddle et al provide first hand accounts of the intricacies of implementing technologically based systems. For those in academia the first paper will surely be a reminder of the times they have had to contort innovative teaching and learning strategies to fit into traditional modes.and jump bureaucratic hurdles. I am sure the strong leadership from both Directors of Programmes was paramount in their success.

1998 could be given the label the year of the human service web site explosion. As more and more human service practitioners and academics develop increasingly sophisticated web sites it becomes imperative to find ways of analysing their impact on users. In *A method for investigating the usage of a cancer web site,* the authors have developed a methodology for examining the trends and patterns in visitor interests and activity, mining the statistical information for the rich data it contains.

The paper in the practice and policy section returns to the theme of evaluation but this time looking at a model of needs assessment within a school of social work. As with the two previous papers the method has wider applicability than the subject which in the case of Cosgrove and Clinton's paper is a more planned approach to the integration of technology.

A number of reviews of software are currently in hand and are expected to be available for the next issue of the journal.

## HUSITA 5

This journal has a history of involvement with HUSITA 5 and we are pleased to announce that the *Call for Papers* is now ready and should be landing on your desks very shortly. Interest is already high in terms of expressions of interest in the international conference that will take place from 29th August - 1st September 1999 in Budapest. The theme for the conference is *Social Services in the Information Society: - Closing the Gap.* See page 24 for details.

*Jackie Rafferty*

Papers

# Users assessment of an Integrated Information System for Foster Care (IIS-FC)

*Rami Benbenishty and Rita Turner-Sheerin*

## Abstract

This paper reports on a study of user feedback to the Integrated Information System for Foster Care (IIS-FC) that was developed to support child welfare agencies working with foster children and foster families. The users are staff at a large private not for profit child welfare agency in Michigan who are using the system daily. Survey questionnaires were distributed to staff twice. Mean response rate was about 85%.

The findings indicate clearly that the responses of practitioners were positive. They tended to rank the system high both in terms of the process of using it, and of the positive impact on their practice. These responses became even more positive over time. Overall satisfaction in the second stage was 94%.

The findings were interpreted as reflecting aspects of the software, of the development and implementation process, and of strong management support. The limitations of the study are discussed.

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*Part of this work was done while the lead author was with the Merrill Palmer Institute at Wayne State University. The authors wish to thank the management and staff at Lutheran Child and Family Service of Michigan for their cooperation and support. The authors wish to acknowledge the many contributions made by the IIS-Team - Ruth Nusenbaum, Robin Treistman, David Van Eck, and Daphna Oyserman.*

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## Introduction

The initial reaction to information technology (IT) in human services has been mixed. On the one hand there was a great deal of enthusiasm and optimism as to the potential contribution to clients and practitioners (Schoech, 1982, 1990). On the other hand, there were many reservations and questions regarding the fit between the technology and social work settings and ethics (Cnaan, 1989). As more and more IT applications are being implemented in the field, it is time to move from speculation to empirical studies of the impact of these applications on practice.

User responses are an important aspect of assessing IT applications. Dissatisfied workers will not use the technology, and thus render it useless. Furthermore, workers assessment of the impact of the technology and its outcomes for their work is a major source of information on the utility of the technology for practice. Early speculations and informal accounts of workers' reactions portrayed a gloomy picture. The book 'The Human Edge' (Geiss & Viswanathan, 1986) presented many 'problem scenarios' involving workers' negative reactions to computers (see also Fuchs, 1989). More recent publications seem to indicate that the current picture is different (Cwikel & Monnikendam, 1993; Flowers, Booraen, & Schwartz, 1993; Mutschler & Hoeffer, 1990; Monnikendam & Eaglstein, 1993). Thus, for instance, Howard (1995) reports a positive response by colleagues in her project to computerize discharge referrals in a hospital.

Despite the fact that the IT wave has been around for about two decades, the number of applications being used by practitioners on an everyday basis is still limited. Those in operation are usually operating within such financial constraints that they are not in a position to invest in the important task of studying their own

impact. It is not surprising, therefore, that empirical and systematic studies of the impact of existing systems in the human services are virtually nonexistent.

This paper reports on a study of user feedback to an information system designed to support their practice. The Integrated Information System for Foster Care (IIS-FC) was developed to support child welfare agencies working with foster children and foster families. The system guides workers through a series of menus and screens to gather all information needed to provide quality care. The information is immediately processed to generate reports needed by practitioners and their supervisors. The data are stored in a database and are easily accessible to all authorized staff for further reporting and statistical analysis. What makes the system quite unique is the strong emphasis on presenting front-line workers with a very easy and friendly system. This system covers all aspects of their information handling - from making sure that they gather all information they need for their practice, to the point in which the software generates the text reports they are required to submit on a regular basis. Contrary to many management information systems, managers play a rather secondary role in this integrated system, the front-line practitioner is the focus of attention (for details on the conceptual framework, methodology and technology see Benbenishty, 1989, 1996; Benbenishty & Oyserman, 1995, 1996; Oyserman & Benbenishty, 1996).

The users studied in this research are staff at a large private not for profit child welfare agency in Michigan. This multi-site agency is committed to improving quality care and was a partner in the development and implementation of the system. Agency supervisors, administrators and line workers were involved in all phases of the project from initial need analysis and system requirements to continuous debugging and improvements. Since the IIS-FC was fully implemented in Spring 1994, all reports submitted by workers to the Michigan Department of Social Services (now the Michigan Family Independence Agency) and to the Court have been generated by the IIS-FC.

The implementation of the IIS-FC required a significant organizational change. Within a period of less than three years the agency moved from having virtually no personal computers to being fully computerized and networked, and relying on the IIS-FC for all information needs related to foster care. Changes of this magnitude are not easy to implement and require consistent efforts to identify problems, obstacles and challenges that need to be addressed. It is essential therefore to monitor and evaluate this process so that adjustments and corrections can assure continuous improvement. This study monitored workers' reactions to the information system.

It should be noted that the first author was in charge of developing the system. His team designed the instrument. The second author is a senior supervisor in the agency. Agency staff conducted the data collection. Workers were encouraged to be as open, critical and detailed as they could, so that the system could be improved. We believe that this combination have helped to ensure truthful responses by staff.

## Method

Survey questionnaires were distributed to staff, who returned it in sealed envelopes within a few days. Questionnaires were given twice: The first was within about six months after the use of the IIS-FC became the standard way of reporting, and the second stage was conducted about 6 months later.

**Sample:** The target population was all support staff and practitioners who were using the system. In the first stage we received 33 complete questionnaires and 37 in the second. This represents a mean response rate of about 85%.

**Instrument:** A questionnaire was designed for the purposes of this study based on the relevant literature and on a series of interviews with staff. The questionnaire was pretested and modified accordingly. No psychometric data on reliability and validity are available. We did not attempt statistical data reduction due to the small number of respondents.

It should be noted that because of the need to maintain strict anonymity, it was impossible to match user responses in the two stages. It is impossible therefore to perform tests for related samples on the data. Therefore, we will report the findings without presenting significance tests.

## Findings

*Characteristics of respondents*

In order to help maintain anonymity we asked for only minimal information on the background of the respondents. In both stages caseworkers were about 60% of the sample, and the rest were divided about evenly between supervisors and support staff. Almost half of the respondents have worked in the agency less than three years. Thus, many of the workers entered the agency while the development of the IIS-FC was already in progress. They were not part of the early stages of orientation, introduction and training. Most of them got only minimal 'on the job' familiarization and training.

Because the IIS-FC is a computerized system it seems that attitudes toward computers and previous familiarity with

**Table 1: The experience of using the IIS-FC**

| | Stage I | Stage II | Change | Direction |
|---|---|---|---|---|
| **The IIS-FC is:** | | | | |
| Reliable | 2.47 | 2.11 | .36 | + |
| Responsive to my needs | 2.50 | 2.36 | .14 | + |
| Challenging | 2.59 | 2.67 | -.08 | + |
| Easy/Simple | 2.66 | 2.14 | .52 | + |
| Dependable | 2.72 | 2.22 | .50 | + |
| Enjoyable | 2.77 | 2.44 | .33 | + |
| Stimulating | 2.81 | 2.83 | -.02 | - |
| Frustrating | 2.91 | 3.37 | -.54 | + |
| Irritating | 3.13 | 3.35 | -.22 | + |
| Burdensome | 3.19 | 3.46 | -.27 | + |
| Confusing | 3.20 | 3.35 | -.15 | + |
| Cumbersome | 3.45 | 3.64 | -.19 | + |
| Hard to learn | 3.66 | 3.94 | -.28 | + |
| Boring | 4.03 | 3.85 | .18 | - |

**Means on a scale: 1 = Always 5 = Never**

**A POSITIVE change score indicates that workers described the specific item as occurring MORE frequently in the SECOND STAGE.**

using computers may be relevant to issues of acceptance and proper utilization of the system. We therefore asked a series of questions regarding the respondents' experience with computers. We found that about 60% had an interest in using computers, about 40% had had a class about using computers, used computers in school and felt comfortable using computers. Only about 17% were 'always afraid to use computer'. These responses suggest that only a very few workers had a strong negative attitude toward computers. The majority indicated that they had an interest in using computers. It is important to note, however, that less than half of the workers had experience using computers and felt comfortable using them. This implementation may have faced 'computer-ignorance', but no 'computer-phobia'.

## The experience of using the IIS-FC

The first set of questions focused on the experience of using the IIS-FC. The items are sorted so those items that staff in the first stage thought occurred more frequently show first.

Table 1 indicates clearly that staff tend to describe the experience of using the IIS-FC in favorable terms. This description became even more positive in the second stage: Workers reported lower frequency of all negative attributes and higher frequency for the positive ones. In several items the positive changes were quite pronounced. Workers felt that the IIS-FC was much more dependable, easy/simple to use, enjoyable and reliable and appreciably less frustrating, than reported in the first stage. It is interesting to note that the smallest positive change was with regard to the extent to which the IIS-FC is stimulating, and the only negative change was the assessment that the system is considered slightly more boring in the second stage.

## The impact of the IIS-FC on work

Staff were asked to describe how they see the IIS-FC affecting their work. For purposes of respondents' convenience we divided the questions to more general questions on the impact on work, and what we considered more specific and focused issues.

Overall, staff see positive effects on their work to occur more frequently than negative ones. This trend was strengthened in the second stage. It is clear that workers feel that the IIS-FC helps their agency. Still, the most significant changes were in the direction of workers reporting on more positive impact on their own work. Thus, workers in the second stage feel even more than in the first one that the IIS-FC helps them, saves time and improves their work. In the first stage there was a considerable number of workers (35%) who felt that the IIS-FC saved them time only rarely or never. This situation changed considerably - only 20% felt like that in the second stage, and 41% felt that the system saved them time always or most of the time (compared with only 25% in the first stage). It should be noted that in two items there was very little change in workers' responses: whether the system helped reduced duplication of effort and whether it discourages creativity.

The response that should be of most concern in this section is the workers' feeling that the IIS-FC increases the burden of paper work. This perception was even stronger in the second stage. This response seems to contradict the staff's feeling that the system saves them time.

**Table 2: The impact of the IIS-FC on work**

| | Stage I | Stage II | Change | Direction |
|---|---|---|---|---|
| **The IIS-FC:** | | | | |
| Helps the agency | 2.19 | 2.00 | .19 | + |
| Improves my work | 2.66 | 2.32 | .34 | + |
| Makes regulations and guidelines more accessible | 2.64 | 2.47 | .17 | + |
| Helps me | 2.71 | 2.32 | .39 | + |
| Reduces duplication of effort | 2.78 | 2.83 | -.05 | - |
| Saves me time | 3.09 | 2.78 | .31 | + |
| Increases burden of paper work | 3.09 | 3.32 | -.23 | + |
| Discourages creativity | 3.19 | 3.23 | -.04 | + |
| Discourages individual expression | 3.29 | 3.46 | -.17 | + |

**Means on a scale: 1 = Always 5 = Never**

**A POSITIVE change score indicates that workers described the specific item as occurring MORE frequently in the SECOND STAGE.**

## Support for specific tasks

We asked a series of questions to identify the impact of the system on specific tasks and work behaviors.

In this area there are only a few noticeable changes between the two stages. In the first stage more than 75% of the workers felt that the IIS-FC helped them learn new skills. In the second stage, considerably fewer workers felt that the IIS-FC helped them learn new skills. This may be an indication that the workers have already learnt the skills needed to use the system. This response may tie in with the feeling in the second stage that the IIS-FC was less stimulating.

In the first stage, organizing the information about

**Table 3: The impact of the IIS-FC on specific tasks**

| | Stage I | Stage II | Change | Direction |
|---|---|---|---|---|
| **The IIS-FC helps me to:** | | | | |
| Learn new skills | 1.97 | 2.24 | -.27 | - |
| Organize the information about my cases | 2.22 | 2.29 | -.07 | - |
| Provide a better service | 2.50 | 2.54 | -.04 | - |
| Find information FASTER | 2.69 | 2.62 | .07 | + |
| Find information EASIER | 2.69 | 2.71 | -.02 | - |
| Remember 'due-dates' | 2.72 | 2.71 | .01 | + |
| Meet my deadlines | 2.77 | 2.74 | .03 | + |
| Get a better overall picture of each of my cases | 2.84 | 2.79 | .05 | + |
| Get better control over work | 2.91 | 2.73 | .14 | + |

**Means on a scale: 1 = Always 5 = Never**

**A POSITIVE change score indicates that workers described the specific item as occurring MORE frequently in the SECOND STAGE.**

their cases was the area in which the IIS-FC helped most - 69% thought it happened usually or always. More than 50% thought that the system usually or always helped them provide better service. More than 40% felt the IIS-FC usually or always helped them find information faster and easier. The areas in which workers saw the system as less helpful in the first stage were in getting a better overall picture of their cases, and in getting better control over their work. These issues seem to be inter-related.

In the second stage there seems to be some improvement with regard to the workers' sense that the IIS-FC helps get better control over their work. Still, having a good overall picture of all the cases is the item in which workers see the system as the least helpful. The small numbers did not allow us to examine whether this issue was more of a concern to supervisors, who need to have a more global view, than to front-line workers. Nevertheless, this response should direct the software development team to identify ways to improve on the system's ability to move from a focus on one family at a time, to better summaries of whole caseloads.

## IIS-FC impact on job characteristics

The literature in this area warns against the demeaning effects of computerization on professional staff. Work can become too technically demanding or too simplified so that professionals lose interest in their work. We were therefore interested in staff perceptions as to how the IIS-FC impacts on their job.

**Table 4: The impact of the IIS-FC on job characteristics**

| The IIS-FC | Stage I | Stage II | Change | Direction |
|---|---|---|---|---|
| **makes my job more:** | | | | |
| Responsible | 2.56 | 2.23 | .33 | + |
| Interesting | 2.78 | 2.63 | .15 | + |
| Challenging | 2.84 | 2.79 | .05 | + |
| Complex | 2.87 | 3.31 | -.44 | - |
| Difficult | 2.94 | 3.40 | -.56 | - |
| Creative and innovative | 2.97 | 2.79 | .18 | + |

**Means on a scale: 1 = Always 5 = Never**

**A POSITIVE change score indicates that workers described the specific item as occurring MORE frequently in the SECOND STAGE.**

In the first stage, two aspects of the IIS-FC impact on the job could be clearly seen - staff felt that using the IIS-FC made their work more responsible and more interesting. The second stage seems to have emphasized the positive contribution of the IIS-FC to work characteristics. Staff feel that their work is even more responsible and slightly more interesting than they did in the first stage. It is important to note that workers did not see the IIS-FC as making their work more complex or more difficult. Nevertheless, it should also be noted that staff in the second stage reported that the IIS-FC made their work more creative and innovative. Thus, although the work does not become more difficult and complex, it still maintains a sense of responsibility and creativity.

**Table 5: Positive and negative impact of the IIS-FC**

| The IIS-FC: | Stage I | Stage II | Change | Direction |
|---|---|---|---|---|
| Overall quality of my work | 3.17 | 3.82 | .65 | + |
| Completeness of my reports | 3.23 | 3.82 | .59 | + |
| Access to information about clients | 3.52 | 3.82 | .30 | + |
| Focusing on the important issues | 3.42 | 3.72 | .30 | + |
| Accuracy of my reports | 3.16 | 3.69 | .53 | + |
| Interest in my work | 3.23 | 3.63 | .40 | + |
| Getting the information I need | 3.35 | 3.53 | .18 | + |
| Being on time with my reports | 2.83 | 3.49 | .66 | + |
| Communication with supervisor | 3.20 | 3.47 | .27 | + |
| DSS reactions to my reports | 2.96 | 3.45 | .49 | + |
| Protecting client confidentiality | 3.23 | 3.44 | .21 | + |
| Maintaining professional discretion | 3.21 | 3.41 | .20 | + |
| Making GOOD decisions | 3.30 | 3.39 | .09 | + |
| Time spent on 'paper work' | 2.60 | 3.38 | .78 | + |
| Making FAST decisions | 3.33 | 3.38 | .05 | + |
| Time spent on direct contact | 2.79 | 2.97 | .18 | + |

**Means on a scale:**
**IIS-FC made things: 1=Much worse 3=the same 5=much better**

**A POSITIVE change score indicates that workers described the specific item as occurring MORE frequently in the SECOND STAGE.**

## The positive and negative effects of the IIS-FC

We asked the workers to assess whether using the IIS-FC improved things or made them worse. In the first stage there were many more areas in which improvements were noted, compared with areas in which things, on the average, were judged as getting worse since the introduction of the IIS-FC (13 vs. 4). In the second stage there were many clear and considerable improvements over this initial positive picture (16 vs. 1). Many more workers saw improvements in the time they spent on their paper work, being on time with their reports and the completeness of these reports.

In several areas staff reported very high positive assessment of the improvements introduced by the IIS-FC. These areas include: access to information about clients, completeness of the reports, and the overall quality of their work. The area in which improvement was not felt was the time spent on direct contact. This is the only area in which the mean response indicates no improvement by the IIS-FC (and in fact a small deterioration is noted). Thus, although workers report improvement in the time spent on their 'paper work', these savings have not been translated to time spent in direct contact

## Overall satisfaction

We asked a series of questions in order to get the more general workers' assessment of the IIS-FC and their satisfaction with their involvement in it. Staff overall satisfaction with the IIS-FC was high in the first stage and very high in the second one. In the second stage there was only one worker who

indicated that he or she was dissatisfied. In contrast, 78% reported that they were satisfied and additional 16% of staff said that they were very satisfied.

In order to get additional information on workers' satisfaction we asked them whether they would recommend the system. In the first stage there were 9% of the workers who would advise against adopting the system, and 25% were neutral. In contrast, in the second stage none of the workers would recommend against adopting the system, only 14% were neutral and 33% would highly recommend the IIS-FC to other agencies. In the second stage no worker recommended abandoning the system (compared with 9% in the first stage).

A related matter is the impact of the IIS-FC on the attractiveness of the agency as a place of employment. In the first stage it was clear that for the majority of the workers the IIS-FC made the agency more attractive as a place of employment (52%). This sentiment is even more pronounced in the second stage: none of the workers felt that the IIS-FC made the agency less attractive. In contrast, 73% of the workers felt that the IIS-FC made working in this agency more attractive.

## Conclusions

The findings of this study indicate clearly that the responses of practitioners to an information system implemented in their agency were positive. They tended to rank the system high both in terms of the process of using it, and of the impact on their practice. These responses became even more positive over time: Workers perceived the system as much more dependable, reliable and easier to use, and much less frustrating than in the past.

When we asked workers in the second stage to compare the situation before and after using the IIS-FC, the responses were very clear: In all areas, except one (time spent on direct contact), workers thought that the IIS-FC made things better. Workers felt strongly that there were improvements in their access to information, in the completeness of their reports, and in their ability to focus on important issues. Most encouraging was the workers' assessment that the IIS-FC improved the overall quality of their work: In the second stage none thought the system reduced the quality of their work, while 70% felt improvement.

Issues of time saving and paper work burden are central to the assessment of the impact information systems have on practice. These issues are important for staff that are overburdened with paper work, and are looking for relief. These issues are also important for administrators for whom 'time is money'. Our findings in this area are positive but not conclusive. In the second stage there are considerably more workers who indicate that the IIS-FC saves them time and improved the time spent on 'paper work'. These are clear improvements over the first stage and may be related to the fact that the system became technically more dependable and less frustrating. Still, workers see the IIS-FC as **increasing** the burden of paper work, and have a lukewarm assessment of the system's impact on the reduction of duplication of effort.

At least some of these responses can be traced to technical shortcomings of the current version of the system. For instance, the word processor integrated into the IIS-FC is dated, compared with the Windows based word processors available to staff outside of the IIS-FC. Some difficulties stem from existing organizational complexities that the IIS-FC could not resolve well. For instance, two different teams that are located in two sites may treat the same family. Coordinating data entry and sharing information across telephone lines daily proved to be a process that is very complicated, time consuming, and prone to problems.

When the workers' overall level of satisfaction is considered, it is clear that satisfaction is high and getting higher. In the second stage about 95% of the workers said they were satisfied and 86% of them would recommend that colleagues adopt the system. These satisfaction rates are above all expectations, and are in contrast to many reports on 'workers resistance'. These positive findings should therefore be explained. First, it is important to see whether they reflect social desirability needs, and are intended to satisfy management. This explanation cannot be totally eliminated. Still, there are many indications that workers were very truthful and specific in their comments, both throughout the time we worked together, and in the anonymous survey. There were no 'blanket', indiscriminate answers. Rather, workers pointed at things they liked, problems they experienced, and shortcomings of the system.

If, indeed, workers are truly satisfied, (despite several specific reservations they may have), the question is why? We think that several factors contribute to this outcome.

**The qualities of the software:** The IIS-FC is an IT application that addresses the information needs of the front-line practitioners and delivers added value to all agency staff (Poertner & Rapp, 1987). It does not demand much training and investment and helps workers carry out their very difficult job. Given the strenuous circumstances under which these workers operate, the IIS-FC is helpful and therefore appreciated.

**The development and implementation process:** The development of the IIS-FC followed many of the recommendations made in the literature. Briefly, it was a process that involved the contributions made by many practitioners in the agency (Velasquez, 1992). The design was led by social workers who were knowledgeable about child welfare, and were able to mediate between the programmers and practitioners (Kettelhut & Schkade, 1991; Schoech, 1990). It consisted of many iterations to respond to workers' requests, and it was very flexible to respond to new requests, and to make changes when flaws in the design became apparent.

In a section in the survey not reported here (due to space limitations), workers said that they thought that the IIS-Team was respectful, knowledgeable, patient, supportive, friendly, helpful, open to suggestions and responded quickly. These perceptions may have contributed to the sense of partnership in development and implementation.

**Management support:** Management has initiated the partnership with the university to develop the system. In contrast to cases described in the literature, management gave absolute priority to the information needs of front-line workers, and gave clear and consistent support to the IIS-Team (cf. Mandell, 1989). In a section in the survey not reported here workers' assessments of management support were quite high. Staff felt that management was committed to implementation, and were supportive of the workers' use of the IIS-FC. In the second stage the assessments of management were even higher, as staff responded favorably to additional training and equipment (cf. Neugeboren, 1991, 1995).

This study should be seen as an exploratory research.

It covers only one dimension of the assessment of the impact of an information system, user feedback. Future studies should address other aspects, such as objective performance standards and client outcomes. The instrument used here has not been validated yet. The study addresses one agency using a specific information system. Furthermore, due to the nature of the data, we did not conduct statistical significance tests on the changes between the two stages. Generalizations, therefore, need to be examined very cautiously.

The limits of this study reflect, among other aspects, the status of research in IT applications in human services: There are too few applications being researched. As more IT applications are implemented and used for a reasonable time, more research should address the important issues of evaluation of these applications.

Finally, what's next? Workers' expectations are a moving target, always going up. As an information system matures, expectations shift and efforts should be redirected. It seems that staff moved from being happy with having 'anything that will help', through being satisfied 'if only my data will not disappear', to 'I wish this word processor would be more friendly so I could move faster'. The aim should be set much higher, expecting to make better clinical and programmatic decisions, and helping clients with the support of information technology (e.g. Benbenishty, 1997). This challenge should direct our future work in this area.

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# Collaborative professional graduate education: A joint Master of Social Work degree program

*Marvin D. Feit, Maggie Jackson, Edmund T. Cranch*

## Abstract

In an age of dwindling administrative and economic resources, providing accessible and affordable graduate education requires a collaborative effort. Two universities in Northeastern Ohio, Cleveland State University (CSU) and the University of Akron (UA), have joined to develop and integrate a novel technologically advanced academic program. This paper explains the processes of such a monumental educational endeavor, as well as the benefits.

## Introduction

The idea for a joint Cleveland State University (CSU) and University of Akron (UA) degree program had its origins in a number of different sources. Over the years student, alumni, and social work agencies in Northeastern Ohio requested each institution to create professional Master of Social Work (MSW) degree programs that would provide affordable access in this region. As early as 1986 the two schools agreed in principle to develop a joint degree program.

Subsequently the governing body, the Ohio Board of Regents (OBOR), announced that it expected educational institutions in geographical proximity to collaborate to the fullest extent possible in the development of new academic programs. Further, it was generally agreed by both institutions that the combination of resources would allow for the development of a strong joint program that would benefit the Northeastern Ohio region.

Principles of agreement were developed by the two universities and a program development plan was submitted to the OBOR in November 1989. Over the next two years the faculties and deans at CSU and UA continued to work together to develop the various program components. In addition, a decision was made to reorganize the departments of social work at the two universities as Schools of Social Work with corresponding directors rather than department heads. This was done in order to facilitate administrative control over the MSW program as well as the movement of faculty between the baccalaureate and graduate programs at each university. The administrative change to a School of Social Work was approved by the UA Board of Trustees. At CSU the change has been approved by the Arts and Science Faculty, the Faculty Senate, and it will be submitted to the CSU Board of Trustees for its approval.

The elements of jointness include:

(1) Joint governance and administration of the program;
(2) Reciprocal graduate faculty membership;
(3) Faculty exchanges;
(4) A common core curriculum with coordinated concentrations and specializations;
(5) Joint student services, including student admission, access to institutional resources, and course offerings at either institution;
(6) Joint faculty development; and
(7) Collaborative research.

Inherent in this list are a number of policies and issues that are quite radical when compared with traditional academic processes at most colleges and universities.

Permission to proceed with the development of a full proposal and program offering was granted by the OBOR. The first class was admitted in January 1995 for the first semester and by using the summer of 1995 they completed the MSW degree during the Spring of 1996. The second class started in the Fall of 1995 and will finish in the Spring of 1997. The third class began the program in the Fall of 1997, and the fourth class has just started this Fall.

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## Mission and objectives of the MSW program

Consistent with the urban roles of CSU and UA, the overall mission of the MSW program is to prepare students for social work careers at the advanced level of professional practice. In so doing, students are equipped with the knowledge, skills and values appropriate to the social work profession, the conceptual base of social work, and the broad-based research strategies used in social work practice. Specific program objectives relate to the quality of professional education, advancement of the community service mission, and contributions to the social work program. These objectives are carried out through an integrated series of courses, requiring completion of a minimum of 60 graduate credits or approved courses, and including a field practicum.

## Enabling distance learning technology

Distance learning technologies were evolving very rapidly during the formative stages in planning and obtaining OBOR approval to proceed with the MSW program. A basic choice had to be made between employing receive-only technology and two-way video/audio capability. In addition to the different degree of interactivity obtained in the two transmission modes, cost factor trade-offs were implicit between the two choices. The desired degree of program integration and communication between CSU and UA were the deciding factors in choosing fully interactive transmission. However, as will be described later, the implications of this decision were only partially understood at the time.

The distance learning technology employed uses a T-1 transmission line to transmit compressed video signals between the two campuses. Students and instructors at the two locations see each other through TV monitors and speak to each other through an associated audio system. Each dedicated TV classroom is equipped with three fixed cameras: an overhead document camera to display print materials, opaque objects and transparencies; one camera facing the instructor; and one camera facing the students to capture their questions, comments or reactions. Classrooms are also equipped with three TV monitors, one of which is used to view the students at the remote location. The technology is designed for maximum participation by students and ease of operation by the instructor.

In order to strengthen the quality of teaching, the instructor has access to additional media materials and information resources (i.e. pre-produced videotapes, films, slides, and satellite programming) for his/her lecture. By the touch of a button on a remote control panel in the classroom, the instructor can access, control and display these media resources on a large video projection screen. Hence, guest speakers can address MSW classes without having to travel to either campus. In addition, a telephone is in each classroom which allows students to talk privately, and all participants have e-mail.

Faculty development was initiated prior to starting instruction. A two-day joint faculty workshop was held during which the faculty was familiarized with the field of distance learning by outside consultants. Topics such as the technology employed, distance learning pedagogy, evaluation, and most importantly a social work academic consultant gave an account of her direct disciplinary experience with distance learning courses. Subsequently, with the help of media specialists CSU and UA faculty members tried out the technology before teaching. Faculty adaptation went surprisingly well so that within a few weeks proficiency was achieved.

## Program organization and governance

Using common admissions criteria, both institutions recruit students so that there are MSW students at CSU and UA. In order to start off with a solid academic program the initial class cohorts have been full-time students, but it is planned to admit part-time students in the near future. Demand for the program has been high so that in the Fall of 1996 there are both day and evening cohorts.

Instruction, program governance, and administration are shared equally. Hence, half of the courses originate at CSU with CSU instructors, while the other half originate at UA with UA instructors. MSW program faculty consists of all faculty members with graduate faculty status at CSU and UA. An important policy issue, reciprocal graduate faculty status, was resolved by granting reciprocal recognition.

Administration of the program is carried out by the Director, with each Director serving a four year term on a rotating basis. The Director assumes all duties concerning the activities related to governance, administration, accreditation, including faculty meetings and committee functions. An Associate Director serves on the other campus and after four years the Directorship passes to this institution.

Governance of the program, including the setting of policies and operating procedures is conducted by the MSW faculty in accordance with the guidelines, policies and procedures outlined in each University's Faculty Handbook. Committees play a critical role in shaping and governing the program. The following standing committees are in place:

- Executive Committee
- Admissions Committee
- Academic Performance Committee
- Curriculum Committee
- By-Laws Committee
- Field Education Committee
- Graduate Committee

Budget planning is done by the Director and Associate Director. Together they consult with the Deans of their respective colleges to formulate a budget in which joint program costs, including accreditation and annual membership fees, are budgeted. The final budget specifies the amount of funding to be provided by each university.

In order to carry out the above functions in an integrated manner, a high degree of face-to-face interaction is absolutely essential. Committee meetings are conducted using the distance learning network, and the entire operation could only be accomplished using the support structure provided by distance learning.

## Administrative complexity

Success of a joint distance learning degree program requires an intensity of commitment and administrative effort for exceeding that normally involved in building a traditional degree program. Communication is critical to establishing the trust essential for a truly unified joint program. For

example, not only does one need to communicate with one's own faculty but in a joint degree program one must also establish a close relationship with faculty at a remote site in a different institution - an institution having its own culture, organization, and operating processes.

In addition to communication with faculty members there is a need to communicate effectively with two sets of university leaders - college deans, graduate deans, provosts, presidents, and Boards of Trustees. Consequently, the process also involves an 'academic political' dimension not normally encountered. Because of the 50/50 model of sharing, the Program Director and Associate Director must maintain active liaison and communication with the joint chair positions of the faculty committees.

The level of communication required involves a great amount of time, frequently to the point of conscious exaggeration, if a sense of fair play between other site constituencies is to be established and maintained. Undercurrents of distrust and criticism arise in traditional academic programs so, again, communication is essential if joint faculty ownership is to be achieved.

Overall, in a joint distance learning program administrative leadership takes on a new role. The Director and Associate Director are brokers between two institutions. New skills are needed that extend far beyond those usually encountered by a traditional department chairman. Experience with the MSW program demonstrates that the required level of communication can only be achieved if the enabling technology is fully interactive. The reasons for full interactivity are far more fundamental than the travel savings or student-teacher interaction normally cited in support of distance learning. Hence, there is close coupling between the choice of enabling technology and the integrity of a truly joint program.

## Enabling Technologies

Early comprehensive distance learning applications for professional education arose in Florida, Texas and California in the 1970s and early 1980s. These efforts were primarily directed to practicing engineers and managers. Programming was delivered from a few universities to regional work sites using microwave TV transmission with telephone lines for student-teacher interaction. Shortcomings with this technology were: the expense of building and maintaining microwave systems and the limitation on interaction resulting from the receive-only TV signal, i.e. the instructor could not see the remote site students.

A second generation of ITV arose in 1985 when the Colorado-based National Technological University (NTU) created a national ITV delivery system using a different means of delivery - satellite transmission. Suddenly, programming was available nationwide to any location having a TV set. The versatility of satellite technology greatly expanded access and enabled dozens of participating universities to provide programming for both accredited Master of Science degrees and continuing education short courses delivered to the workplace. NTU is now one of the largest engineering and management master's degree institutions in the United States. However, the video is still receive-only and the use of satellite transmission leads to a per credit hour cost of about $560.

The receive-only video constraint was removed in the early 1990s through a major advance in technology - compressed digital video (CDV) - whereby using existing land-based telephone networks two-way video is possible between instructor and remote site students. Hence, interaction approaching that of the live classroom is now common practice. Because of the enhanced pedagogy and lower cost of CDV technology, it was adopted by the joint CSU-UA degree program. This technology is presently being widely adopted by higher education in the United States.

## Student learning

Beginning with early delivery of ITV programming, studies have been made of comparative learning outcomes between students in the traditional live classroom and those at remote sites. An extensive literature exists covering a very wide array of subject matter and thousands of students. (Note: See the American Journal of Distance Education, PBS documentation, numerous national conferences including the Proceedings of Twelve Distance Teaching and Learning Conferences of the University of Wisconsin-Madison.) Overall, the results can be summarized as follows:

- **Learning Outcomes** - as good or better than in the traditional classroom;
- **Instructors and Students** - adapt quite readily to the distance learning environment;
- **Instructor Training** - necessary for introducing the teaching to the technological classroom;
- **Instructors** - are better prepared and organized than in the traditional classroom;
- **Student Support Services** - are critically important: timeliness, library, handouts, return of student work.

In preparation for the joint program, CSU and UA were alert to the above needs and their experience supports the above findings. Since both sites have similar electronic classrooms with technical support, and are based on campuses with library resources, accredited social work programs, and so forth, this means that there are no remote sites, only other sites. Also, since a faculty member is transmitting from one of the sites, all students have faculty in their classroom about half the time.

## Accreditation

One of the more interesting challenges in distance learning is to insure that accreditation standards are met. This has been an inherent expectation in the joint MSW program. At the time of the initial letter of intent to the OBOR in 1989 the social work accrediting body, the Council on Social Work Education (CSWE), did not have guidelines for distance learning. Therefore, it was necessary to proceed on the premise that the program would be evaluated according to existing, traditional format standards.

Although there was an awareness that discussion was taking place within the social work profession about CSWE proposing guidelines for distance learning programs, it was not until January 1996, after the MSW program was in its second year of operation, that CSWE issued proposed guidelines for distance learning. However, an assumption underlying these guidelines is that the predominant model for distance learning is transmission from one originating primary site to off-campus locations, often remote and with sparse resources. While one can readily envisage some

immediate problems in the context of the CSWE model, it is not the only one that should govern standards.

For example, the MSW program is based on a different model which the proposed CSWE guidelines do not adequately address. Each university is a primary transmission site since each site transmits and receives from its distance learning classroom. Faculty and students see each other all the time. Further, each student has access to all campus activities, library resources, computers, and a full complement of social work faculty able to assist student with their questions. Present CSWE guidelines do not address a program which has separate and distinct university entities, share faculty and other resources, and have strong fully accredited undergraduate programs. Consequently, MSW faces a challenge when its program will be reviewed for full CSWE accreditation using guidelines intended for a different distance learning model.

The evolution of CSWE's accreditation process is not unique. Many professional discipline accreditation bodies have the topic under active consideration. Some respond by essentially adhering to traditional evaluative norms of the traditional residential classroom model even though these norms are in most cases unwritten. For example, in distance learning classes concern is expressed for faculty to encourage students to speak in class and to be alert, with the assumption that faculty in the traditional classroom do encourage student participation and keep students alert. Although these assumptions are not always accurate they have the effect of discouraging distance learning initiatives. However, other professional accreditation bodies are remaining quite flexible until the real power and versatility of the technology can be verified in practice.

The central question in distance education, which accreditation guidelines strive to address, is how well a program insures adequacy of learning for its students. In other words, regardless of the model used in delivering distance education a program must indicate how students achieve the educational objectives of the program, how student learning needs are met, and how students have access to the resources available when compared with other forms of delivery. By using student and faculty evaluation instruments as well as classroom performance and tests, the joint MSW program insures adequacy of learning for its students.

While I have provided an overview of some of the more salient perspectives regarding distance education, I would like to turn attention to the proposed guidelines for distance education in social work. I will use CSWE's evaluative standards 6.1 and 7.3 which address equal quality of education and equal of its alternative program (distance education) relative to its standard program. I would note that in our case the graduate program is the standard program and there is no alternative program in either institution. I think it is important to emphasize that distance education is a format for providing instruction, i.e. it is another way for students to learn. Thus, the central question in this format, as in all other formats, should be whether students are learning what they are supposed to be learning.

Recent emphasis on evaluation and assessment are indicative of a national trend to document student learning. This issue remains in all of education and certainly distance education must be called upon to document that learning objectives are being met.

In regard to program rationale the Council requires a rationale statement attesting to the need for a distance education format. Such a rationale should not be difficult to address in today's society because of the changing student population base, the ability of many students to handle the new technologies, the availability of several technical trends (video and sound being stored digitally, the wide spread usage of the internet), and the availability of many technological advances for the general population. In short, the changing population and the ever changing technology are merging requiring new paradigms to be developed.

It is interesting that the other major areas in the proposed guidelines cover areas of program structure and curriculum addressing points which are appropriate for any educational format. For example, one should address the availability of redundant or backup systems so that the program could continue should an electronic classroom have technological problems. There needs to be information regarding the establishment and financial costs of an electronic classroom so as to indicate the adequacy of the equipment and the commitment of the institution to supporting the effort.

However, most of the specific points presented in the proposal require no operational attention, depending on the type of format used. For example, the comparability of library resources and the formulation and review of educational policies related to distance education would fall under the same procedure and be similar to a program that has an off-campus component such as a weekend program where courses may be offered at the local motel. The same analysis is applicable for administrative and secretarial support, the development and monitoring of field placements, non discrimination policies, etc.

It is interesting to note that in regard to faculty a full explanation is expected regarding faculty training and development in this technology in addition to several other concerns. However, should not traditional programs be asked to provide supporting documentation for how new faculty are trained or developed and what options exist for older faculty to be re-trained. Apparently one assumes that in traditional method faculty development and training issues do not need to be addressed, that teaching in a traditional format comes naturally to faculty and hence needs no intervention or support from the institution. It is being suggested that faculty teaching in distance education have to address or approach instruction from a developmental standpoint and many of the same issues may face at the outset of their careers have to be addressed again.

It would seem that practically every question raised in these guidelines are addressed in the existing curriculum policy statement. For example, how advising is conducted and how the faculty maintain control of the curriculum are issues which must be addressed in the curriculum policy statement.

Probably the most salient point that can be deduced in meeting accreditation standards is that the distance education format of instruction requires that adjustments be made and the means used to achieve learning objectives be clearly identified, as you would expect to happen with any educational format. The most problematic issue is to ask people to approach distance education respective of the changing requirements of the market, the advances of technology, and approach a program with an open perspective. Far too often distance education receives comments from people who lack familiarity with the delivery format, on how the program learning objectives are achieved. Distance education is another method of providing educational instruction to the needs of today's changing population.

# A method for investigating the useage of a cancer website

*Sally Tweddle, Peter Avis, David Davies, Nicholas James, Harry Daniels.*

## Abstract

There is little flexibility to investigate questions about Web site usage data using commercially available access statistics software. A method was therefore developed for examining trends and patterns in visitor interests and visitor activity using standard spreadsheet software. Statistics for one year's usage of a cancer Web site were used and text pages taken as the unit of analysis. Categories and descriptors were developed for different types of user activity. Trends in visitor interests could be identified by subject. Usage by the site's primary audience could be calculated as 46% of visitors. Such methods enable interpretation of rich data about Web site usage and could inform development and contribute to improvement in information services.

## Introduction

This paper is concerned with the development of a method for analysis and interpretation of usage data on web sites. The study is part of a research and development project, based at the *Cancer Research Campaign Institute for Cancer Studies* at the University of Birmingham. A web site for the general public, *CancerHelp UK* (http://medweb.bham.ac.uk/cancerhelp/) has been developed as a collaboration with BACUP (the British Association for Cancer United Patients) and the National Council for Educational Technology. Key objectives are to use images frequently, to present information in small chunks and simple language so that it can easily be read on screen and to make the service easy to use even for those with no experience with computers. Evaluation of the service is being undertaken in clinic waiting rooms and via the Internet (Tweddle et al., 1997).

The standard means of reporting usage of Web sites are in terms of (a) total 'hits' (requests for component files which make up pages e.g. text and graphic files) over set time periods (per week, month, year or since inception) (b) total unique visitors to the site over a set period of time (c) numbers of countries visiting the site. Many sites also publish more detailed usage statistics on the site about trends in volume of traffic, mean number of hits per user and most visited pages. However usage data is contaminated by a variety of types of users and under-reports usage, as shown by (Buhle et al., 1994) and (Benjamin et al., 1996). Search engines check sites periodically and a number of commercial services, such as America On Line, and large corporate users access a Web site and use proxy servers to pass on the information to many others, a practice which is increasing (Goldberg, 1997). Further, reporting of hits reflects what the computer sends to the user, not numbers of pages seen (for example, the range of hits required to present a page of CancerHelp UK to the reader is 1-6). Moreover, the assumption that 'the information is being retrieved by those who truly need it or want it' (Nagy, 1994) needs examination.

In order to inform future developments and to improve understanding about which aspects of cancer are of most interest to the users, a method was developed for analysing the interests of visitors (what information was accessed) and visitor activity (how it was accessed). With respect to the interests of visitors it was decided that the standard unit of analysis should be the page which is presented on screen, rather than the hit, and that pages should be grouped under subjects and topics. With respect to visitor activity, the objective was to distinguish between different types of users: those

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who were casual or misdirected visitors, those who were looking for and used the information available on the site and computers searching for information about the site or collecting pages to pass on to users. This was done by examining the numbers and types of pages read by each user and average time spent accessing pages.

## Method

CancerHelp UK usage statistics were collected on the host server over a period of one year. All hits were recorded in a flat file database as separate records with fields for: computer making the hit, previous location (which on entry to the site may be a search engine or another Web site), file requested, date, time of each hit, time taken to deliver the file in tics (50 tics = 1 second) *(see figure 1 below).* In order to enable comparison with other cancer Web site providers, this data was processed monthly using standard shareware software (ServerStat Lite v1.1.2).

Additional information about usage was obtained through a combination of qualitative and quantitative techniques. Observation of individuals' usage took place at computers in clinical settings, generating hypotheses about different types of reading activity. Specifically it demonstrated that users appeared to use index pages to help map out the subject, not just as a way of getting to content pages. Visual scanning of usage data enabled initial categorisation of users by amount of time spent on pages and numbers of pages accessed. Subsequently, custom processing of data was used quantitatively for examining, adjusting and refining qualitative hypotheses. This analysis was carried out by the development of macros in a standard spreadsheet package (Microsoft Excel). Macros are small elements of programming that enable the researcher to ask more specific questions of the data than are allowed by the standard functions of the package.

### *1. Visitor Interests*

All files used on a Web site have unique addresses, referred to as 'urls', which carry information about the type of file and its place in the structure of the site. Each page presented to users on screen has as its basic component a text file. Other components of the page, such as images and navigation icons, are provided by different types of files. The suffix of filenames indicates their function: in the case of CancerHelp UK all text files are suffixed with '.html' *(see figure 2).*

In order to generate data about usage of pages on the site, records relating to text pages (html records) were selected from the database (n = 191,761), omitting all other files. The html records were processed using shareware software to give total number of text pages accessed per month and by each visitor. Using a spreadsheet with appropriate macros, calculations about usage were made by

**Figure 2. 'urls' for index and content pages and logo file**

**http://medweb.bham.ac.uk/cancerhelp/adults/specific/breast/treat/surgery/index.html**

**http://medweb.bham.ac.uk/cancerhelp/adults/treat/radio/livradio/tips/skin.html**

**http://medweb.bham.ac.uk/images/logo12.gif**

searching and classifying urls. In CancerHelp UK the elements of the url indicate the subject or topic of the page thus acting as keywords. For example, by searching for the strings 'specific/breast' and 'treat/radio' in the urls in Figure 2, the first was counted under 'specific cancers: breast' and the second under 'treatment: radiotherapy'. For topic analysis, searches were made on all elements of the urls. Thus the elements located in the urls in Figure 2 were 'breast', 'treat', 'surgery', 'radio', 'liv' (living with) and 'tips', pages being counted several times to give a weighting representing the site's overall coverage of subjects and topics. Calculations were made for each month and for each subject and topic of the numbers of pages available and visited.

### *2. Visitor Activity*

In order to establish how users found and used the information they wanted (visitor activity), all html records from the flat-file database were imported into a spreadsheet and calculations made of total pages and numbers of index and content pages accessed by each visitor. *(Figure 2 shows one of each, the first containing the element 'index', the second not.)* A ratio of index pages to content pages for each visitor was calculated to distinguish between different types of visitor behaviour. For example, someone looking for a specific piece of information on radiotherapy side effects or examining the site to see what it contained on complementary therapies would make more use of index pages than someone wanting to read all about chemotherapy for breast cancer.

In order to calculate average time spent by each visitor on one page all records from the flat-file database were imported into a spreadsheet. The differences between the times logged for all of a visitor's requests (or hits) were summed, the time taken for delivery of the files (tics) subtracted to give a total time on pages and the total divided by the number of pages visited, minus one to take account of the last page.

Criteria were developed to enable classification of each month's visitors by the number of pages they accessed. These were derived by a) identifying trends in the numbers of pages accessed; b) calculating the mean number of pages accessed for visitors to see one content page (as opposed to an index page). The categorisation was informally tested by examining addresses of computers to distinguish between individuals and search engines or proxy servers. Further, these

**Figure 1. Information recorded about one hit**

| | |
|---|---|
| **User** | 775.bham.ac.uk |
| **Referer** | http://www.medweb.bham.ac.uk/cancerhelp/public/treat |
| **Page/image/icon requested** | http://www.medweb.bham.ac.uk/cancerhelp/public/treat/chemo |
| **Date** | 08/29/96 |
| **Time** | 19:52:06 |
| **Delivery** | 29 tics |

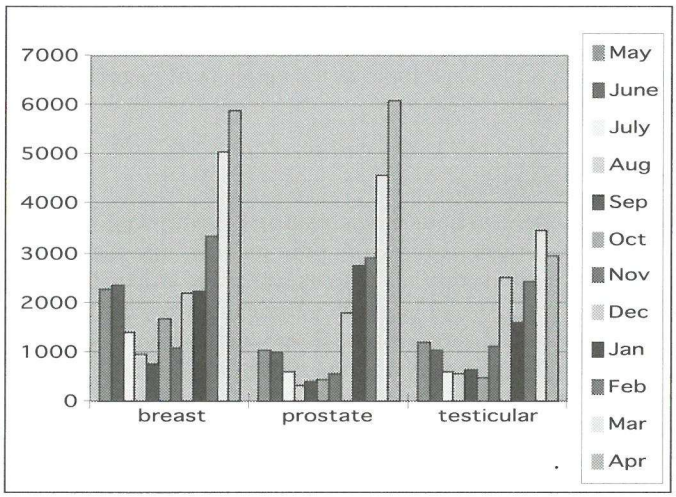
addresses were randomly sampled to identify the characteristic 'reading' pathways of people and tracks of computers. Formally, differences between the five types of visitor groups were tested in terms of the ratio of index to content pages (divided into 3 groups <0.5, 0.5, >0.5) using a Chi-square test and in terms of average time spent per page, using Kruskal Wallis one-way analysis of variance.

## Results

### *Visitor interests*

By applying method (1), total number of pages accessed (191,761) could be calculated and reported by month in addition to reporting hits (475,095) and visits (23,117). The numbers of pages available in subject or topic areas were established, for example, 81 on breast, 51 on prostate and 33 on testicular cancers. It was found that 70% of visitors saw at least one content page.

**Figure 3. Accesses of pages by subject.**




Numbers of pages accessed by subject and topic could be calculated to show interests of visitors and relative changes within subjects over time. For example, Figure 3 shows overall trends in usage of the site: a drop in usage over the summer months following initial interest in the site after launch in April 1996, followed by a steady and continuing increase in accesses. More specifically, it can be seen that at the time of publicity over new screening tests, prostate cancer rose in popularity over both testicular and breast cancer despite there being fewer pages than on breast *(See figure 3).*

Figure 4 shows the proportions of visits to topics within three cancers. It can be seen that testicular cancer visitors made proportionately more visits to the about cancer section (general information including screening) than breast or prostate cancers visitors for whom information about treatment was the most visited section. For all three cancers, a higher proportion of visitors accessed reading lists than links to other Web sites.

### *Visitor activity*

Data generated by using method (2) showed that visitors behaved in different ways and they could be broadly categorised according to the numbers of pages they accessed on the site. Descriptors for each category were developed to convey the distinctions between different user activities *(see figure 5).*

### *Surfers' and 'seekers'*

38% visitors were surfers (1 or 2 pages), characterised as casual or misdirected visitors. 16% were seekers (3 or 4 pages), taken to be interested in cancer information but not pursuing the interest further. On average seekers would see at least one content page, given that the average number of pages accessed for a visitor to see a content page was 2.89.

### *'Reader/mappers' and 'researchers'*

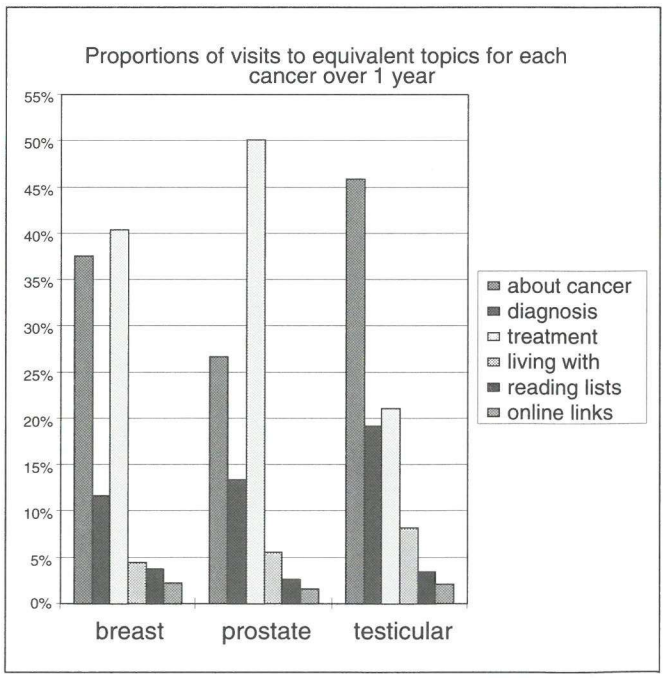
Reader/mappers (5 to 19 pages) constituted 37% of visitors and researchers (20-99 pages) 9%. These two groups of users showed a commitment to using the site by staying beyond 4 pages. Researchers were considered to have sustained the activity beyond an initial enquiry. Reader/mappers were evenly distributed in terms of the ratio of index pages to content pages read, demonstrating different types of reading and mapping/browsing activity. A drop in visitors at the 19/20 borderline was taken as the delineator of the reader/mapper and researcher divide.

### *'Hunter/gatherers'*

In the final category were hunter/gatherers (0.6%), that is, search engines which periodically access the service for updating and proxy servers which gather and store the pages to pass on to their users. User in this category visited large numbers of pages (100 or more), many had addresses signifying their function and they had distinctive tracks through the site. Private individual addresses within the 100 or more category were rare.

18% of visitors looked only at content and 24% only at index pages with the remaining 58% having a varying distribution between content to index pages. There is a highly significant difference in the ratio of index to content pages between the 5 groups ($c2 = 532$, $df = 8$, $p < 0.001$). The medians were for surfers 0.5, seekers 0.67,

**Fig 4. Proportion of visits to equivalent topics for each cancer**



reader/mappers 0.55, researchers 0.45, hunter/gatherers 0.32, where the ratio of index to content pages on the site is 0.23. There is a highly significant difference between the visitor types in terms of the average time per page ($c2 = 3536.2$, $df = 4$, $p = 0.0001$), median for surfers 8.02 seconds (IQ = 2.4 - 22.8), for seekers 20.77 seconds (IQ = 11.9 - 39.6), for reader/mappers 29.68 seconds (IQ = 18.4 - 49.1), for researchers 37.11 seconds (IQ = 24.7 - 53.4), for hunter/gatherers 40.29 seconds (IQ = 19.2 - 92.5).

## Discussion

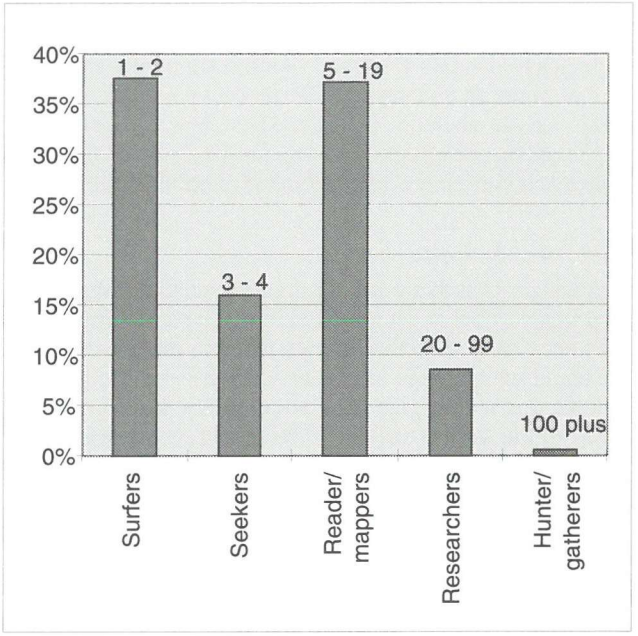
Rigorous methods of research and evaluation are necessary for web developers and service providers (Lancet Editorial 1997; Wyatt, 1997) and feedback or evaluation forms, though useful in informing service developments, are unreliable in profiling the visiting population because of low return rates (Network Wizards, 1997). Commercial software products can be used to perform extensive analyses of access statistics in order to report on previously identified questions. Their weakness is that they provide standard statistics, distancing researchers from interrogation of the raw data and consequently limiting other possible investigations. On the other hand, spreadsheet packages offer a powerful tool for examining usage data by enabling researchers to ask specific and tailored questions.

### *Visitor interests and activity*

Analysis of visitor interests can take into account the volume of material available on subjects and topics. This can be more informative than 'top twenty' lists, which may be representative more of the limited availability of information on the site than of its importance to users. For example, individual testicular cancer pages appeared in the top ten pages of the site over twice as many times (33) as breast cancer pages (14). However subject analysis showed that in one month only (December) did testicular cancer supersede breast cancer in popularity (Fig. 2). Comparison of equivalent topics across three cancers (Fig. 3) provides a basis for hypotheses about the different types of information people want: for example, treatment for prostate cancer, information about cancer for testicular cancer and information about reading lists in preference to links to other Web sites. Establishing the usage of material on subjects or topics in this manner may further prove useful in enabling comparisons with other information sources such as leaflets or telephone helplines. This method could be adopted by the majority of Web sites given that they are generally logically organised and use urls that contain either keywords or codes which would enable classification by subject.

Reporting numbers of visitors to a site is an indication of traffic and not usage. For example, Oncolink a highly rated American Cancer web site had 1,241,448 visitors in the same period as CancerHelp UK had 23,117 (Oncolink editors, 1997). It is clear that the American site is more extensively used than CancerHelp UK but such figures say nothing about the users. Extensive use of search engines for instance, means that many users who reach a site leave immediately. The method described here makes more possible identification of different types of users and examination of usage by a service's target audience, which could be said for CancerHelp UK to be the core of readers and researchers who see more than 4 pages on a visit. For other sites with different structures it may be

**Figure 5. Categories of visitors to CancerHelp UK**




necessary to define the number of pages within each category differently but once established the categories could be applied routinely to examine trends in usage.

The categories and descriptors for visitor activity provide interpretations of behaviour which need to be further explored. For example, while some people choose to surf between sites, others may give up if a site takes too long to download and a descriptor of 'frustrated readers' should perhaps be considered. Those who read only 3 or 4 pages may prove to be 'book markers' who subsequently return to a site or may be 'finders' who have met a specific limited enquiry through arriving at the right place in the site by use of a search engine. Amongst readers, those who see between 5 and 20 pages, there appeared to be different types of users: those pursuing detailed information (reading content pages and some index pages) and those surveying or mapping the area (visiting predominantly index pages). It is feasible, however, that those visiting large numbers of index pages were searching for information that was not easy to find or not available on the site.

### *Methodological issues*

Whilst all accessible data was used to make measurements as accurate as possible there were a number of constraints. It should be noted that although the word 'visitor' is used this actually means 'visitor computer' or 'accessing computer'. There is no way of knowing whether multiple visits from the same computer represents a single user or a number of different users using the same computer. This, together with the practice of caching popular pages at various nodes in a network, means that quoted visitor numbers are likely to be smaller than the numbers of individuals who have seen the pages.

In establishing time on pages, a further issue is the lack of data about transmission time and actual reading behaviour. It should therefore be noted that time on page does not represent actual reading time and no account can be taken of the visitor who is distracted or who is downloading the pages to read later. However the relative regularity of the "reading" time per page suggest that the majority of visitors are reading

pages on screen in a reasonably ordered way. The algorithms assume that any visitor with a delay of 10 minutes since the last page request has logged off. This will add some minor inaccuracies to the data for those visitors who either spend over 10 minutes on one page, or for those who log onto the site again having visited it within the past hour. However inspection of the data suggests these are likely to be rare occurrences and do not affect the interpretation of the data.

### *Impact on development*

The results showed that a higher than expected number of index pages was being seen by 'readers'. The structure of the site had been created so that users needed to make a conscious choice about which piece of text to see. Observation in clinics had shown this taking place and additionally that some users mapped out the subject using the index pages. Nevertheless, in the light of the data, it was decided to adjust the design and supplement the hierarchical index system with additional navigation devices supporting more linear and continuous styles of reading.

## Conclusion

The richness of the data that is generated about Web usage offers researchers opportunities to investigate people's information seeking habits on a scale and at a level of detail previously unachievable. This study offers some insights into how this might be accomplished and pointers for further work. The categories for, and descriptors of, visitor activity need further exploration. Another aspect of future work will involve mapping the different pathways taken through information, perhaps using the Lamprey system (Felciano & Altman, 1996) which automates mapping of individuals' pathways. Further work is needed on investigating the actual reading activity of users through observational studies. The method outlined here can additionally enable analysis of interests across national boundaries. It is feasible that studying the activities and interests of Web site users will not only improve information provision but also enhance existing understanding about the information needs of those who are using web based services.

## Acknowledgements

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Policy and Practice

# Assessing technology needs in a school of social work: Asking the right questions

*John Cosgrove*

## Abstract

The authors describe a needs assessment model developed from the experiences of a social work school in evaluating its use of technology. Following the introduction and unplanned but burgeoning growth of computer use in the school, a committee was appointed to institute a more planned approach to the introduction of technology. The committee, using informal participant observation approaches - the first step in the model, gathered data used to establish broad parameters for further study. These parameters were then used to formulate a series of interviews with key informants at strategic points in the school - the second step in the model; -the results of which established different domains within the broad parameters. Based on these domains, focus groups were then conducted - the third step in the model - to obtain more detail and greater clarity on these issues, resulting in the identification of the still more specific dimensions of the domains. This served as the basis of developing the fourth and final step of the model: a survey comprising well-informed questions which reflect the unique interests of a school of social work and are meaningful to the populations to whom they are posed.

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## Introduction

The key to conducting a good needs assessment is asking the right questions. That is not as easy as it might seem, especially when it comes to assessing needs involving the complex, often intimidating and ever changing subject of modern technology. This paper describes a model in which progressively more focused and differentiated issues can be identified utilizing a mix of methods that produce questions that are at once relevant, comprehensive in scope and capable of eliciting responses which are prescriptive of action. These questions can then be put to a population or sample of informants, usually through a survey, with greater confidence in the usefulness of the outcomes.

The model is illustrated by the efforts of a school of social work to formulate such questions as part of an effort to develop a strategic plan for the integration of technology. The need for schools of social work to take such action is briefly discussed and pertinent background information about the school is presented. The evolution of the technology-related efforts by the school - from incremental, uncoordinated beginnings through the development of a formal needs

assessment process, is then described. Rationales are provided for the selection of the methodologies employed and the methodologies are related to the steps in the model. The findings of each step in the model, the relationship between each step and the results or questions derived from this process are presented.

The term 'technology' is used as the generic reference to various information, telecommunications and other existing and emerging technologies. In addition to its inclusiveness and thus convenience, this usage serves as a reminder of the need to remain open to the ever new and seemingly unending ways in which these advances affect our lives and our work. The importance of such a perspective became apparent in the case example which will now be described.

## Background

A recent provocative paper about the future of social work could not have posed the challenge of technology to schools of social work more directly or dramatically. The paper, intended for an audience of social work educators, presented the picture of a profession made increasingly irrelevant, obsolete and eventually moribund by the inexorable advance of science and technology. Nowhere in that paper is there even the hint that the schools, or anyone else for that matter, could reverse the inevitability of the process leading to the predicted outcome (Kreuger, 1997).

While this prediction may overstate the threat, the challenge to the profession is indeed a serious one and it was directed to the appropriate audience. Social work professionals and students have a limited understanding of technology, an area which is not being adequately addressed by schools of social work. (Pardeck et al.,1995; Schervish, 1993) This is despite critical issues which surround the application of technology in all methods and fields of practice. (Cnaan, 1989; Cwikel & Cnaan, 1991)

Schools of social work are at different points in their incorporation and use of technology. However, it is expected that the experience reported here, while it may be different in its particulars, has much in common with that of other schools.

The school involved is one of the larger schools of social work with approximately 1,000 full time equivalent students on a suburban as well as an urban campus both of which offer full masters programs. At the urban site, the school also offers a doctorate and, in collaboration with the undergraduate programs of the university, a baccalaureate degree. The university itself is a moderate-sized (14,000 students), private institution. Though fiscally viable, it is not gifted with a large endowment and, like other institutions of higher learning in recent years, has had to adjust to shrinking undergraduate enrollments and reductions in government support. The university has three undergraduate and two graduate as well as four professional schools (business, education, law and social work). While it has an established record of scholarship in the humanities and social sciences the same cannot be said of the hard sciences and technology which no doubt has affected the pace of technologization

By the beginning of the nineties the school was similar to other schools of its size with graduate programs in terms of the availability and use of technology. That is, although mainframe and microcomputers were beginning to appear in offices, they were accessed principally in labs and used by faculty primarily for word processing and research and by administrators for student records, admissions and financial management (Caputo & Cnaan, 1990).

The growth of technology in the school was driven by the pull of the increasing disparity between the capabilities of the school and the external environment and by the push from those in the school who had some degree of relevant expertise. The latter have been an important stimulus in the development of technological capacities (Klepinger, 1989). Gradually, faculty who taught and/or conducted quantitative research and who had already been comfortable with statistical software on the mainframe moved to the PC versions of these packages. As fiscal constraints began to impact on clerical support, those in the school who were good typists began the move to word processing to prepare classroom materials, proposals, papers and other documents.

One of the most frequent and relatively early uses of computers in schools of social work at that time was for electronic mail (Caputo & Cnaan, 1990). Ironically, this vehicle for increasing familiarity and comfort with computers was undermined by the introduction of an excellent voice mail system at just about the time that a majority of offices were being equipped with personal computers.Voice mail, rather than e-mail, soon became the preferred means of intra-school communication.

As the pace of computerization quickened, a committee was created to make recommendations to the dean regarding: the replacement of personal computers; the purchase of additional equipment including the acquisition and equitable distribution of peripherals, such as printers and scanners, between each of the two campuses and within each location; and, the training and technological support of faculty, staff and students. The committee was made up of persons with interest in or experience with computers. It was hoped that their collective expertise would help the school keep up with advances in technology.

## Methods

### *The Catalyst*

Thus far, the experience of the school is probably much like that of many other schools, especially those with related backgrounds and characteristics. It is likely too that each school can point to a particular event or circumstance which triggered the beginning of a more planned approach to the incorporation of technology. For our school it was the question of MACs versus IBM compatibles.

The MAC-IBM conflict arose, in part, from an approach to planning by the university which paralleled the incrementalism of the school. At the time, the university had agreed to provide personal computers to the administrative and support staff of the school, it had a contract for the purchase of MACs. It was either MACs or nothing, so MACs were installed. The ratio of IBMs and clones to MACs had been similar to what it was elsewhere, about 2:1 (Caputo & Cnaan, 1990). The new acquisition made the numbers nearly even. When funds were made available for the purchase of additional computers with the option for either type, the battle lines were drawn. The majority wanted to standardize on IBM-types but a vocal minority did not want to abandon their MACs.

The committee conducted a brief, targeted survey about preferences and use of micro computers to provide a more objective basis for a decision on this matter. Respon-

dents on the side of the IBM-type machines pointed to the greater array of software available for that platform, the MAC defenders mentioned its ease of use and graphics capability. However, aside from the availability of preferred statistical programs for IBMs, there was no clear advantage of one over the other for most of the uses to which the machines were put, except in the eyes of the champions of a particular platform. The decision was made to allow faculty to choose the type of machine they wanted.

The survey itself and discussions stemming from it unearthed a number of other issues. Among the issues were the incompatibility of software for similar purposes in terms of different manufacturers and different versions from the same manufacturer. Obtaining site licenses and upgrades helped resolve some of these difficulties and even though faculty were again allowed a choice when it came to software, they have moved toward de facto standardization in some basic applications. Although the persistence of a few in their use of new and different software helps protect the school from the stultifying effects of absolute standardization (Caputo & Cnaan, 1990).

## Participant Observation

Aside from the survey, committee members obtained the data on which decisions were based from: what they saw and experienced; answers to questions they asked colleagues in the normal course of events at the school; and, as people became aware of their membership on the committee, the issues which people brought to them. This provided valuable information that, up to a point, enabled them to make decisions on matters that came before them. In regard to these activities at least, the committee members were engaged in a process that resembles participant observation, although it was not so designated nor as rigorous or well documented, save for minutes of committee meetings.

However, participant observation, even at its best, has its weaknesses as well as its strengths. The range of what can be observed is potentially comprehensive in regard to the subject of interest and occurs in context. Nonetheless, without manipulating the natural setting, the occurrences of interest cannot be focused or controlled, making a thorough understanding of the subject a long term, labor intensive project. In the case example, while the committee members were relatively more sophisticated technologically than their colleagues, it was impossible to determine the extent to which even the collective observations of the committee were inclusive of the nature, range and frequency of experiences with technology. Furthermore, while everyone on the committee had some interest or expertise in technology, no one considered themselves expert and there were, in fact, gaps in their knowledge. An example of the latter was the introduction, for their consideration, of the purchase of a multi-media projector. Few members had known much about this equipment or about related presentation or authoring software and their educational potential.

While demonstrating the limitations of the committee, incidents like this did help to broaden members' conception of 'technology' which initially had connoted a much narrower range of applications, having to do mostly with the more basic functions of micro and mini computers and related software for word processing, statistics and spreadsheets. Significantly, the committee began, without much self reflection at the time, to refer to itself no longer as the 'Computer' but the 'Technology' Committee.

As for the gaps in technical knowledge, university computer services and audio-visual personnel were helpful but, as in other institutions, these personnel were overextended generalists. In a time of fiscal constraint, they were trying to respond to the rapidly growing technological awareness and demand throughout the institution. The growing literature also reflected the times and state-of-the-art in that it was informative but posed more questions than it provided answers, was equivocal on important matters like the dangers of technology and attitudes toward its use.

Paradoxically, the very fact that committee members were relatively more technologically sophisticated than their colleagues made them poor informants when it came to another fundamental issue. That was getting people to make fuller use of existing, as well as new technology. It requires an effort, if not a rare skill, to recall and/or empathize with the intimidation and frustration felt by new users, and to help them gain some confidence with technology. Somehow most get past that first, seemingly insurmountable peak of the learning curve and move on. Some do not go much further, a few never make it.

Committee members would occasionally receive discrete requests for help with special features of voice mail, interrogating a database or transferring files. That similar requests were not always brought up in public forums, such as faculty meetings, fed speculation that existing supports, including university-wide courses on various hard and software, were missing the mark.

The work of the committee thus far was necessary and important in that it had established the broad parameters for further study - that 'technology' included more than basic micro and mini computer uses and that there was and likely would continue to be a problem maximizing the utilization of whatever technology would be available. These issues were then pursued utilizing appropriate methodologies.

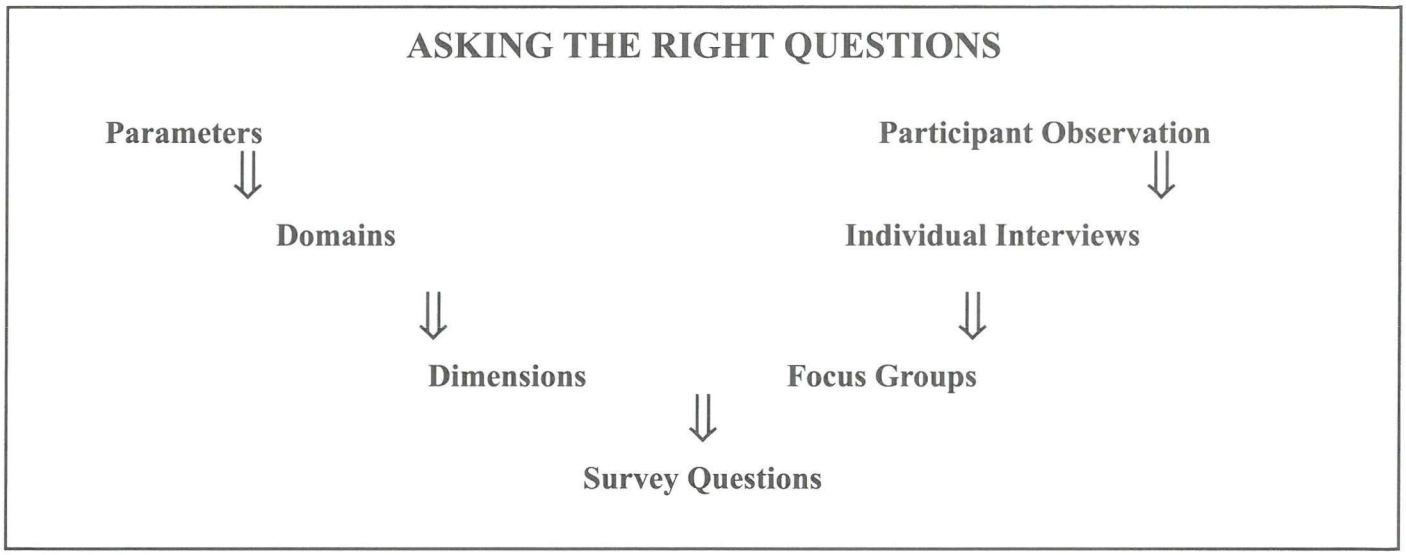
## Interviews

The decision was made to conduct a series of interviews with key informants at strategic points in the school including those who might have different technology needs and levels of sophistication. Those interviewed were the dean as well as administrators and staff who exercised responsibility on both campuses for admissions, student services, field work and the small, informal, in-house, computer labs.

Although the interviews provided a broader and more purposeful sampling of personnel and locations, a survey would have been more representative as would focus groups, as well as being more efficient. However, so much was unknown or uncertain about technology in relation to school functions and the knowledge and attitudes of personnel that it would have been difficult to formulate survey items which would be meaningful and comprehensive. Relatively unstructured focus groups would have helped to discern broad parameters for further study but they would not have provided the safer environment of the one-to-one interview that some people evidently needed to be comfortable in discussing these matters. Interviews also permit both more controlled and in depth coverage than these other methods allow (Morgan, 1997).

In pursuing the question of what constitutes technology in the interviews, there was indeed confirmation of the sense that it was and should be inclusive and not just be

**Figure 1 depicts the needs assessment model, the steps in it and the parallel methodologies employed.**




limited to basic micro computer applications. At the same time, it became clear that interviewees varied in what they knew about different forms of technology. Furthermore, most usually knew something about applications other than those they utilized. This led into the second issue or parameter that had been identified, underutilization.

Interviewees agreed that full use was not being made of the technology that was available. The majority believed that this condition obtained generally as well as being applicable to themselves. Most tended to be apologetic about their lack of technological expertise and their failure to do more about learning. Intimidation and lack of time were given as some of the reasons why they had not been more assiduous in this regard, but mention was also made about problems in relation to access to technology; training in its use and, technological support.

There was near universal enthusiasm for the potential of technology but concerns and differences around two additional issues: the areas in which technology was most important; and, the impact of technology on practice.

The interviews thus provided a good beginning at discerning the nature of the technology related needs in the school but there was not yet the detail and clarity needed to draw conclusions which would dictate actions to be taken nor was there assurance that all relevant issues had been identified.

## Focus Groups

Using the differentiation and elaboration of the parameters into the themes or domains just described, a series of focus groups were then conducted to obtain still more representative and comprehensive input as well as greater issue clarity. Eight groups were held, five on the urban campus (one of doctoral students, two of masters students and two of faculty), and three on the suburban campus (one each of masters students, faculty and administrators). The conduct of the groups was expedited and potential moderator biases reduced through the use of two moderators. Like the interviews, the focus groups were recorded and the recordings transcribed to aid in analysis. Videotapes of most of the groups further aided in analysis.

Focus groups provide a safe environment different from that afforded by individual interviews. Focus groups seem to support the expression of more extreme views or intense expressions of views than might seem appropriate or comfortable in an interview (Morgan, 1997). This effect was evident in the groups in which participants were much more vocal about and gave more emphasis to resource issues.

Focus groups are also valuable for constructing survey items which are meaningful to respondents. In the groups conducted, the development of prerecorded educational materials was consistently referred to as 'videos' or 'videotapes' indicating perhaps a lack of awareness of the full potential of multi-media and interactive applications available. This finding has implications for future training needs as well as the wording of survey items.

Focus groups were an efficient way of reaching a larger sample of each segment of the target population - students, faculty and staff - than would have been possible to do individually with similar resources or in a comparable period. Furthermore, group discussion aids in clarification as members expressed and explained their ideas, questions and concerns to one another. It also highlights areas of consensus and disagreement, both important considerations at this point in the investigation and given some of the sensitive issues involved (Morgan, 1997). In the case example, focus group participants shared the perception that the cause of most of the problems with training and technological support were beyond the control of the school. There was less of a consensus in regard to the level of technological competence they expected of social work practitioners. However, a range of expectations was identified. The latter constitute the dimensions of the aforementioned domains and served as the basis of a survey question. In another example, location, timing, format and content developed as the dimensions of training.

The following emerged as areas in which technology was seen as being particularly important: the recruitment of students and faculty and as an asset to a professional career. The confirmation of these assessments in a survey along with the determination of expectations of competency would have important implications for planning in the school and for advocacy for technologicalization within the university. Indeed, the feedback from the needs assessment helped advance the technology cause of the school even as the assessment was in process. At the same time it offered the

opportunity to obtain additional input from a group which, while they had been part of the focus groups, had not been included in the interviews.

Since the university had agreed to consider a request for a fully equipped computer lab situated within the school, data about student needs and usage was needed. A survey of students was conducted to obtain this information as well as to elicit feedback on ethical concerns that had arisen in the focus groups. The survey helped confirm the findings of the focus groups about both the inadequacy of the present computer facilities and the impact of technology on practice. The latter was elaborated in the focus groups into the following dimensions: client confidentiality; client-worker relationship; worker satisfaction; worker liability; and service effectiveness.

Figure 1, above, depicts the needs assessment model, the steps in it and the parallel methodologies employed.

## Discussion

This case illustration demonstrates that the sequential utilization of progressively more focused qualitative methods can lead to the formulation of questions about the selection and use of technology in schools of social work. The methods can reflect the uniqueness and range of interests of a school; are meaningful to the populations to whom they are posed; and are likely to produce responses which will delineate related needs and suggest courses of action to meet those needs. Further, this process can be profitably informed by consulting both the literature and technical experts and be supplemented by the tactical employment of limited-purpose surveys to ascertain necessary supplementary information and surface previously unarticulated issues which may require further exploration.

The underlying model postulates that participant observation, even of a limited nature, can help set the broad parameters of the inquiry, in this case the meaning of technology and how to maximize its use. A purposive sampling of personnel and locations within the school for interviews can then help to discern the domains within those broad parameters and begin to identify the component dimensions of those domains, a process which accelerates and is completed in focus groups.

The model is flexible as befits the dynamic subject to which it was applied. The acquisition and use of technology continued as the study progressed. The study was both informed and affected by these technological developments. The multiple perspectives provided by the methodological mix helped to capture and incorporate what was learned from experience as well as serendipitous events such as the opportunity to expand computer facilities for students.

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# On line or on paper? - an analysis of options

*Jackie Rafferty*

## Introduction

The question facing the editors of *New Technology in the Human Services* was whether it was the right time for the journal to go on-line via a web browser. It seemed ironic that as more and more journals move to on-line versions NTHS should stay in paper format only, given that its topic is the use of communications and information technology in the human services. We surmised that most of its readers are likely to be pro technology use and therefore we thought more likely to be equipped to receive an on-line journal.

We perceived the advantages of an on-line web version of the journal as being able to provide:

1. direct 'links' to web sites mentioned in papers.
2. a searchable 'history' of papers over a number of volumes.
3. access to multiple copies via a subscription.
4. added value facilities such as a 'chat-room' or commentary on papers.

We also were aware that a number of subscribers were from both practice and academic libraries whose users may not yet have access to the web but equally may have problems accessing the one copy of NTHS held in a library. NTHS readership is split between practitioners and managers from both statutory and voluntary agencies and those from academia.

Lacking a substantial research budget we decided to undertake a consultation exercise and test the waters with two short questionnaires. The first we sent with an issue of the journal directly asking subscribers to respond and providing a Freepost envelope. The second we sent to the two relevant UK based on-line discussion lists, the CTI Human Services list at cti-soc-work-uk@mailbase.ac.uk and the NISW list uksocwork@nisw.org.uk

The survey was carried out in February 1998. Obviously using discussion lists meant we were biasing the sample because those accessing the questionnaire from the lists were already on-line. Thank you to those who responded.

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## Data collection

The two questionnaires essentially asked the same main questions with additional questions for the on-line version as to whether respondents were subscribers to the journal. Incidental information was gleaned from the email addresses and signatures of the discussion list respondents. As the survey was not methodologically thorough we present here the raw data.

There were a total of 31 respondents to the paper-based questionnaire distributed with the journal and 37 replied via email to the discussion list surveys. 11 responded to the CTI-soc-work list and 7 from the NISW list. It was impossible to tell from the email headers of the other 19 which list they were responding from. Some respondents answered more than one option on a question and that accounts for the totals adding up to more than the total number of respondents in places. Equally some respondents did not answer all questions.

**Figure 1. Responses to the questions asked**

| Questions | Paper survey respondents - Total 31 | | | Discussion list respondents - Total 37 | | |
|---|---|---|---|---|---|---|
| | Yes | No | | Yes | No | |
| 1. Do you currently have access to a worldwide web browser? | 29 | 2 | | 36 | 1 | |
| a. If no, are you planning to have web access within the next 12 months? | 2 | 0 | | 1 | 0 | |
| | Work | Home | Both | Work | Home | Both |
| 2. If you have a web browser do you have access from work, home or both? | 20 | 4 | 7 | 7 | 4 | 25 |
| | Yes | No | Not sure | Yes | No | Not sure |
| 3. If you have a web browser do you have 'frames' capability? | 16 | 2 | 11 | 26 | 0 | 9 |
| | Yes | No | | Yes | No | |
| 4. Would you prefer NTHS to be an: | | | | | | |
| a) Ejournal only? | 2 | 17 | | 13 | 7 | |
| b) Ejournal & paper based? | 14 | 5 | | 20 | 4 | |
| c) Paper based only | 17 | 6 | | 2 | 7 | |
| | | | | Yes | No | |
| 5. Do you subscribe to NTHS? (discussion list respondents only) | | | | 8 | 27 | |
| 6. Would you like further information on the journal? (discussion list respondants only) | | | | Yes 6 | No 1 | |
| | Yes | No | | | | |
| 7. Are you prepared to pay for a subscriptionto an Ejournal? (asked of the paper based respondents) | 6 | 1 | | | | |

We were hoping to provide added value to an on-line journal by using the resources currently taken up in printing costs but it is clear that the journal should aim to be both paper-based and on-line. One illustrative comment from a respondent of the paper-based questionnaire was: "The journal is very useful broader reading for our team who are responsible for implementing a new client record system. If it was not a paper journal, we could not access it." As we have a commitment to providing a resource for both practitioner/managers and academics we will have to look at ways of making this possible.

## Incidental information

As mentioned above respondents to the discussion list survey provided further information from their email addresses and the signatures appended to their returns. From these we were able to assess that of the 37 respondents:

- 29 were from the UK, 8 from overseas (the discussion lists are UK based lists)
- 6 were female, 31 were male (I had hoped for a more even distribution).
- 11 were practitioner/managers, 14 were academics (12 responded from ISP's without declaring their affiliation).

## Commentary

We thought the results would be of interest to you both in terms of what it told us about the direction of the journal but also what it told us about the respondents themselves. There is an obvious gender imbalance (6 female, 31 male) in terms of respondents but why this is so is not explainable from the data. As we thought the majority of respondents in both types of survey do have access to web browsers. 29 out of 31 of the journal readers had access and the other two were planning to have access to the web. 36 of the 37 discussion list respondents had access and the other respondent also planned to have access within twelve months.

Journal readers were clear in their attitude to the 'Ejournal only' option with 17 saying no and only 2 saying yes. The

discussion list correspondents were more divided with 13 saying yes and 7 saying no. Interestingly, there was a call for the journal to remain totally paper based although the Ejournal and paper based option would still give readers a paper based version.
Of those responding to the discussion list surveys 25 had both work and home access whilst only 7 had work access. Circumstantial evidence tells us that most agency based readers do not have email or web access at work, particularly in the UK. The email responses above of those responding to the discussion list survey would indicate that practitioner/managers and academics were logging on from home and the time stamp on the messages would indicate that most are responding to email in the evenings. This would support our understanding that practitioner/managers are beginning to have better access from home than they do from their agency. If you have views on this projected development please do contact me.

# Conferences

## Peace and Social Justice - The Challenges Facing Social Work

*IFSW and IASSW 2nd Joint World Congress, 5-9 July 1998, Jerusalem.*

This event, in conjunction with the 28th International Conference of Social Welfare - ICSW, will take place as a follow up to the first congress in Hong Kong. There is a Pre-Congress International Symposium on Community Work: *Community Work, Democracy and Citizen Participation in a Multicultural Perspective.* Information is on:
**http://www.isassw.org.il/congress.htm**

## Information Technologies for Social Work Practice and Education: Using to teach and teaching to use

*University of South Carolina, Charleston, USA 20-23 August 1998.*

This international conference on learning technology in social work educaion is a follow up to one held last year at Charleston.
**http://www.sc.edu/cosw/techconf/**

## Technology and Human Services Forum

*Sydney Airport Hilton, Australia 27 August 1998*

This event is the fourth day of the 1998 ACWA conference in Australia. Contact: *sharyn.low@acwa.asn.au* (submissions) and Morri Young *matrix@ths.com.au* (content) or see:
**http://www.acwa.asn.au/**

## Lifelong Learning on a connected planet ALT-C 98

*University of Oxford, UK 21 - 23 September 1998*

As the Internet continues its inexorable growth, how are learning technologists seeking to harness this planet-wide infrastructure? How can communication and information technologies offer new educational opportunities to under-represented groups of users? And can technology bring about affordable lifelong learning? This conference, inspired by the University of Oxford's Technology Assisted Lifelong Learning (TALL) Programme, aims to provide some of the answers to these questions. The three-day conference will include papers, discussion workshops, a poster exhibition and demonstrations from ALT members and other delegates worldwide.

Contact: Anna Turner, ALT-C 98
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## Social work - Making a Difference

*University of Central Lancashire 22-25 March 1999*

**Call for papers** This international conference on the changing face of social work is jointly sponsored by University of Central Lancashire and the British Association Of Social Workers. Abstracts are invited from academics and social work practitioners by 1st June 1998 on the following themes

- The changing nature of society
- Knowledge and Ethics Changing
- Communication, Imagery and Ideology
- Research and Evaluation in SW practice.

Abstracts should be sent to Bob Sapey in the Department of Social Work.Email: **r.j.sapey@uclan.ac.uk**

## HUSITA 5 - Call for Papers

*Budapest 29 August-1 September 1999*
Conference Theme**: Social Services in the Information Society: Closing the Gap**

The call for papers for the fifth *Human Services and Information Technology Applications* conference is now out. Either fill in the electronic abstract form at: **http://www.husita.org** or email: **conftours@mtesz.hu** or use the copy in this journal.