Computer mediated communication and disability support: addressing barriers to study for undergraduate distance learners with long-term health problems

Thesis

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Computer Mediated Communication and Disability Support: Addressing Barriers to Study for Undergraduate Distance Learners with Long-term Health Problems

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B.A. (Honours), The Open University, 1990

Volume 1 of 2

Thesis submitted for the degree of Doctor of Philosophy in Educational Technology, The Open University, Milton Keynes

October 2001
To all the students who have participated in my research studies;

and

to my family, with love
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Sarah Owen, my aunt, who has sustained me with love and support throughout my whole life.
Abstract

This work explores barriers to study encountered by undergraduate distance learners with long-term health problems. It considers ways in which problems identified in an Exploratory Study might be addressed. These include fatigue, difficulties with handwriting, academic and social isolation, together with a need for better interactive communication with support agencies. The student perspective is explored in depth. The essential finding is that the adoption of an Autonomy approach when using CMC for access to services on a ‘Virtual Campus’ can have beneficial effects and begin to break down the barriers to study that the Exploratory Study identified.

Two intervention studies sought to address these problems using a computer conferencing system as the medium of contact with support staff and other students in a ‘Virtual Campus’ environment. A novel mode of access to educational counselling provision was designed, introducing a group dimension into the process. In addition to one-to-one e-mail, participants could now consult the advisor in a counselling topic within a confidential peer group environment, DOORway. The findings suggest that informal contact with the counsellor in this conference had helped to build rapport and develop confidence for these students to approach her by e-mail when more private advice or help was needed. Given a choice of options, at the close of the studies more than three quarters of the sample said they would prefer access to a counsellor on-line rather than by traditional routes.

The role of the peer group conference is considered to have been pivotal to the reported benefits in a number of ways. Firstly, it provided an empathic on-line community for mutual support. Secondly, it provided an environment in which sensitive questions could be raised with an educational counsellor. Thirdly, it provided a gentle introduction to participation in the wider world of open conferences on a ‘Virtual Campus’. The findings suggest that it was the combination of this raft of measures, a holistic package readily available when using CMC in a ‘Virtual Campus’ environment, that was most effective in addressing the identified barriers to study for this group of students with long-term health problems.
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Chapter 1: Introduction

This work explores barriers to study encountered by undergraduate distance learners with long-term health problems. The institution chosen for the studies was The Open University UK. The undergraduate population of this distance-learning establishment includes a considerable number of students with disabilities (5,622 in 1996 - Source: Open University, Office for Students with Disabilities). For this reason it was considered to provide a suitable environment in which to undertake research into the study experience of such students and also to discover whether any barriers to study that might be identified could be alleviated. The first major research question addressed by the work was:

- “What are the barriers to effective study faced by undergraduate distance learners with long-term health problems?”

This was followed by an exploration of the second question:

- “How might the identified barriers be addressed?”

In a climate of growing societal awareness of the need to respect and maximise autonomy for those with disabilities the research reported here places an emphasis on the student perspective (see Chapter 3.3). This new approach was influenced by concepts drawn from an
Emancipatory research model discussed in Chapter 2.2.3 (see Barnes 1992; Morris 1992; Oliver 1992; Zarb 1992; Roulstone 1994). The term Emancipatory research encompasses a spectrum of definitions. These range from a position where input of ‘the researched’ (that is to say the target group being studied) is included in both the design of the project and evaluation of the findings (Zarb 1992), to one defined as an approach that seeks to further the interest of ‘the researched’ (Morris 1992). It is this latter definition that most influenced the approach adopted here.

Over recent years there has been a marked shift in emphasis when considering disability related issues from the use of a Medical or Deficit model to a Social model where disability is viewed primarily as the product of social and economic factors. The debate has been traced by a number of researchers (see Finkelstein 1981a; McKnight 1981; Oliver 1983; Abberley 1987; Evans and King 1991; Dawtry 1997; Newell 1998; Oliver 1981; UNDESA 1981; Roulstone 1994). Briefly, a Medical or Deficit model describes a scenario where disability is often regarded as a ‘personal tragedy’ to be overcome by providing compensatory help to enable the individual disabled person to function at the level of the able bodied. On the other hand, a Social model takes the view that disability must be conceptualised as more than purely a problem of adaptation on the part of an individual disabled person. Those taking this view argue that it is society as a whole that throws up barriers to participation for the disabled and that such barriers need to be addressed more generally.

The term barriers is a useful one which invites remedial action to be taken on a more social basis of addressing common areas of difficulty rather than looking solely at individual cases in isolation. This is one of the goals of the research reported here. Roulstone (1994) introduces a barriers approach, when considering the world of work, arguing that barriers may be grouped
under three main headings, these being environmental, technical and attitude. In summary, 
*environmental barriers* are defined with respect to the necessity to work in a world designed 
for the able bodied. In the case of *technical barriers* he argues that technological aids that are 
simple but effective (rather than dramatic) are often neglected. Finally *barriers of attitude* 
concern a lack of understanding on the part of able-bodied members of society about the 
nature of problems experienced as a result of disability. This approach provides a useful 
framework by which to consider the work experience of disabled people. In the case of the 
work reported here, it was premised that a set of barriers might be identified specific to the 
target group in relation to the study process.

Another barrier experienced by disabled people, identified from a review of the literature in 
this area, concerns possible diminishment of personal autonomy as a result of disability (see 
Hunt 1966; Finkelstein 1981a). Ways in which this might be redressed are a subject for 
1996; Dawtry 1997). Klaus et al (1996) highlight the need to respect autonomy when 
discussing a change in the title of an annual international conference from ‘Computers for 
Handicapped Persons’ to ‘International Conference on Computers Helping People with 
Special Needs’. They argue that this symbolises the placing of the decision making process on 
their needs into the hands of the disabled person. With particular reference to the issue of 
student autonomy for those with disabilities in the field of tertiary education, Newell and 
Walker (1991) propose that support for those studying might best be approached using the 
services of an intermediary acting in a liaison capacity so that the student retains control of the 
decision making process (see also Newell and Walker 1992; Evans and King 1991). Such a 
position takes a middle way in incorporating elements from both the *Medical* and *Social* 
models. This suggested model for student support in a conventional university environment
influenced the type of educational counselling provision offered to participants in the
distance-learning environment of the two experimental computer mediated communication
(CMC) studies reported in this thesis (termed Intervention Studies 1 and 2) and outlined later
in this section. The latter study was the main study in the linear series of studies undertaken.

A need to relieve isolation as a result of disability was identified as another underlying area for
provide one possible way to relieve this barrier. An exploration of the literature in this field
found that benefits relating to the relief of isolation have been described for distance learners
in tertiary education as a result of interactive contact with staff and other students via
computer conferencing (Mason and Kaye 1989; Oliver 1994; Mason 1995; Mason 1996;
Wilson and Whitelock 1996; Jennison 1997; Lake 1999). In the wider world of the Internet, in
recent years a number of researchers have suggested that shared empathy is important to the
success of on-line Internet communities (see for example Smith 1992; Rheingold 1993; Preece
1998; Preece and Ghozati 1998a and 1998b). This is another area of interest that was explored
in the two experimental CMC studies reported here. It will be argued that the provision of a
confidential peer group area played a pivotal role in the support of the participants, both for
interactive peer communication and for group access to the services of an educational
counsellor.

The literature relating to models of disability and to computer mediated communication is
explored fully in Chapter 2 with the addition of that concerned with the third area of interest,
educational counselling, which assumed central importance during the course of the work.
The findings of an initial Exploratory Study (see Chapter 4) suggested there was a need for
better interactive communication with support services for the surveyed sample. The literature
in this area was therefore of particular relevance to the design of the Intervention Studies 1 and 2 (Chapters 5 and 6). These set out to explore the effects of providing access to the services of an educational counsellor on-line in the environment of a ‘Virtual Campus’ for a sample of students drawn from respondents to the postal survey of the Exploratory Study.

The advisory service offered was influenced by the type of developmental counselling approach advocated by Frost (1991) for use in a conventional university environment (see Chapter 2.4.3). Frost’s model is based on the concept of shared decision making between an advisor and student in matters related to study support (see also Broadbridge 1996; Woolfe et al 1987). It has resonance with the approach suggested by Newell and Walker (1991), described earlier. Writing prior to the time when CMC was widely available, Simpson (1988) cogently argues potential advantages for correspondence as a medium for educational counselling support (see Chapter 2.4.3). Intervention Studies 1 and 2 set out to explore the effects of adapting such a text-based approach to a CMC environment for interactive contact between an educational counsellor/advisor and small group of undergraduate distance learners with long-term health problems (see Chapters 5 and 6).

In Chapter 3 the methodology of the Empirical Studies undertaken is described. An exploration of the literature relating to the Medical and Social models of disability suggests that in the main these concern the experience of people with disabilities that are stable in nature or have stabilised (see Chapter 2.2.2). It appears that little research had been undertaken into the experience of those suffering from serious medical conditions that can fluctuate in severity. This might differ in some respects from that of the former category. Further research was desirable to investigate this issue. However, this would cover a wide
area of interest. In the case of the studies reported in this thesis the focus of the research is confined to the experience of undergraduate distance learners in the latter category.

As indicated earlier, the design of the research studies undertaken was influenced by aspects of an *Emancipatory* research model (see Chapter 3.3 and 3.4). An important aim was to gain an understanding of the experience of students with long-term health problems from the student perspective. The approach taken was a holistic one. The studies were designed to maximise the autonomy of participants in relation to the study process in a distance-learning environment and this approach is referred to as the *Autonomy* approach in this thesis.

Given the nature of the research topic, there were particular ethical considerations to be taken into account from the outset. The severe health difficulties suffered by the target population demanded an approach of great care and sensitivity. The principles of professional ‘duty of care’ were continuously borne in mind in the design and implementation of each of the studies. Confidentiality was guaranteed throughout. All data is used anonymously and nothing is presented in a way that might lead to the identification of any individual. The student volunteers were made aware that this would be the case before agreement to participate in the studies was obtained.

In a situation where little previous research had been undertaken, an exploratory framework was adopted as that most suitable for the collection of data to investigate the experience of students in this category when taking a broadly *Emancipatory* research approach (see Chapter 3.4). This scenario required a reflective approach to be taken by the researcher. Figure 1-1 provides an illustration of the steps taken at each stage.
**Exploratory study** designed
↓
**Act**
implement study (1994) -
questionnaire survey of volunteers
↓
**Reflection**
evaluate results;
consider how identified difficulties might be addressed by
CMC
↓
**Revise Plan**

**Intervention Study 1** designed -
feasibility study of on-line educational counselling
within a ‘Virtual Campus’ environment
↓
**Act**
implement **Intervention Study 1** (1996)
questionnaires, observation
↓
**Reflection**
evaluate results
↓
**Revise Plan**

**Intervention Study 2** designed -
modifications include group dimension
for educational counselling
↓
**Act**
implement **Intervention Study 2** (1997)
questionnaires, observation
↓
**Reflection**
evaluate results;
consider which issues merit further investigation
↓
**Revise Plan**

**Personal Interviews** designed -
in depth exploration of issues raised in earlier studies
↓
**Act**
implement **Personal Interview Study** (1999)
‘face-to-face’ interviews,
‘epistolary’ online interviews
↓
**Reflection**
evaluate results from all studies
↓
**Conclusions drawn**
The student perspective was explored in depth throughout the studies, using a multi-faceted approach to data collection that would illuminate the research questions from different angles (as outlined in Figure1-1). A summary of the methods of data collection used in each study is presented in Chapter 3, Table 3-1. The aim was to construct a picture that reflected as accurately as possible: (i) the perceived barriers encountered and (ii) the effects of access to facilities provided via CMC to address these. The questions were designed to explore the experience of this category of distance learners in relation to the various methods adopted to support study by The Open University UK, the institution in which the study was to be undertaken. These include: (i) home study (using specially written course units and set books), (ii) completion of tutor marked assignments (marked and commented upon by the course tutor), (iii) attendance at tutorials (usually about six per year), (iv) attendance at week-long residential schools and (v) end of course examinations.

At the end of each phase it was necessary to take time to digest the findings and to consider what would be the most appropriate steps to take in the next stage. In this sense the research structure was influenced by the concept of a self-reflective spiral first described by Kemmis and expanded upon by McNiff in the context of Action Research methodology (see Kemmis and McTaggart 1982; McNiff 1988, p 27). However, in Action Research it is the practitioner him/herself who initiates and evaluates creative changes to existing practice as a result of reflection during the course of their everyday working environment. This differs from the situation reported here (discussed in Chapter 3.4) where the researcher’s role in the experimental Intervention Studies was that of a facilitator rather than teaching professional. In the main study this involved setting up and being an occasional participant in the peer group conference area, with back up moderation powers in case of need. The participants in the
studies were aware of the fieldwork relationship. The following section presents an overview of the series of Empirical studies undertaken.

An Overview of the Empirical Studies

The linear series of studies outlined in Figure 1-1 took place between 1994 and 1999. The results of the first study of the series, the Exploratory Study, are presented in Chapter 4. The main research question addressed here was:

• “What are the barriers to effective study faced by undergraduate distance learners with long-term health problems?”

Four barriers common to the majority of the sample were identified. These included fatigue, isolation, difficulty with handwriting and a need for improved communication with support agencies. The next question to be addressed was:

• “How might the identified barriers be addressed?”

Empirical data drawn from the literature in the field of CMC suggested that use of this medium for communication with staff and students might provide an effective way to tackle this combination of difficulties in a distance-learning institution. A feasibility study (Intervention Study 1, described in Chapter 5) was therefore designed to address the set of identified barriers using a computer conferencing system as the medium of communication. This took place over the period of one academic year. Six participants selected from respondents to the postal survey of the Exploratory Study were provided with a new route for contact with an educational counsellor and fellow students in the environment of a ‘Virtual Campus’. Special provision included access to a peer group conferencing area accessible only
by named participants (an ‘empathic on-line community’). The research questions addressed in this study were:

- “What are the perceived effects for students of access to the services of an educational counsellor available via e-mail in the environment of a ‘Virtual Campus’? Are the barriers to study alleviated by this method?”

- “What are the perceived effects on the study process of access to other facilities available on a ‘Virtual Campus’?”

The findings from this study suggested that CMC was a possible medium for the provision of support services, but that in order to succeed there was a need for rapport to be established between counsellor and student. It was therefore necessary to consider how this might be achieved without the use of conventional aids of visual and audio feedback. This raised an important new research question, which was:

- “How might personal rapport between an educational counsellor and student be developed via the medium of CMC?”

Following a period of reflection, the main study (Intervention Study 2) was undertaken to address this question, in addition to the earlier questions. A key feature of the design of this study was the introduction of a group dimension to educational counselling provision within the peer group conference environment (see Chapter 3, Fig. 1). Two criteria were considered paramount in the modifications made to the design of the conferencing area. These were: (i) to construct an environment which would maximise autonomy for the student in deciding when to ask for help, and (ii) at the same time to promote rapport between the educational counsellor and students. This called for a delicate balance of control to be established between students and advisor. In order to address these objectives, the environment was structured in
such a way that the professional status of the counsellor was distinctly maintained whilst also providing opportunities for informal contact with the students. The student-led area consisted of a set of topics moderated by a student moderator, drawn from the research participants. Here the counsellor was encouraged to take part informally as a guest of the students. In addition, a counselling topic (controlled by the educational counsellor) was introduced to provide a ‘virtual room’ where she was available for consultation and interactive discussion with the student participants in a group environment. Possible effects of the available facilities on motivation, autonomy and enjoyment were explored. This study is described in Chapter 6.

Finally a number of Personal Interviews were undertaken to complete the main study by exploring inferences drawn from the earlier studies through direct interaction with the participants. Eleven students were interviewed in total. This phase of the work was undertaken in two parts, using two different interview techniques. These were ‘face-to-face’ interviews and on-line interviews by asynchronous e-mail, a novel method introduced in this thesis, termed *epistolary* interview. This latter method was adapted for text-based communication from the type of semi-structured conversational format described by Wilson (1996) as a suitable research tool for in depth exploration of interviewee experience in a face-to-face situation. Both sets of interviews were based on a similar framework of interview questions. This study is described in Chapter 7 and highlights the nature of conditions that facilitate good communication with an educational counsellor. Additionally the nature of difficulties experienced in relation to the study process was re-visited with a new sample of students. The aim was to crosscheck the findings of the earlier studies, and to explore the issues raised in greater depth as a way to provide triangulation of data (see McNiff, 1988).
Chapter 8 draws together and discusses the findings from the whole series of studies. Finally conclusions are drawn and areas for future research discussed.

Summary of findings

The overall picture that emerged from this research is a complex one. The essential finding is that the adoption of an Autonomy approach, when using CMC for access to services on a ‘Virtual Campus’ can have beneficial effects and begin to break down the barriers to study that the Exploratory Study identified. The results suggest that CMC had provided a useful route for the provision of educational counselling support for the majority of the sample (see Chapter 8.3.5). Further findings suggest that the sharing of experiences (both study related and social) in the peer group conference area with fellow students who were facing similar difficulties was also considered particularly valuable (see Chapter 6.6, Table 6-14). The majority of the sample in the main study reported increased levels of motivation (ten out of thirteen), enjoyment (ten out of thirteen) and autonomy (seven out of thirteen) in relation to the study process (see Chapter 6, Table 12). One of the thirteen participants had reluctantly dropped out at a very early stage of the main study because of a severe deterioration in health and therefore did not answer these questions, which was asked in the end of year questionnaire. None of the participants reported a diminishment of motivation, enjoyment or autonomy. The use of text based CMC with an off-line reader capability had enabled the participants to prepare messages at their own speed and when they were feeling freshest, thus addressing the barriers of fatigue and difficulties of dexterity. The results suggest that isolation had been reduced for these participants. These findings are fully discussed in Chapter 8.3.
It will be argued that the role played by the peer group conference was pivotal in relation to the reported beneficial effects in a number of different ways. Firstly, the findings suggest that the majority of participants perceived communication in this area as in itself valuable for mutual support from those facing similar difficulties in relation to their studies. Secondly, they suggest that the value was enhanced by the introduction of a group dimension to educational counselling in this conference area. The balance of control created by the structure of the conference environment in Intervention Study 2 had promoted the building of rapport between counsellor and students. Confidence to approach the counsellor for information, advice or help with problems was increased (see Chapter 6.4.2.3). This finding is supported by data drawn from the student questionnaires, from the record sheets of student contacts and by comments from the counsellor’s post-participation on the increase in use of her services by one-to-one e-mail she had observed over the period of the main study (see Chapter 6.4.3.3). Additionally, data drawn from the student questionnaires and subsequent personal interviews suggest that other Self Help Group conferences openly available on the ‘Virtual Campus’ were also perceived as having contributed to the beneficial effects. Overall the findings suggest that it was the combination of the ‘raft of measures’ provided, a holistic package readily made possible when using CMC in a ‘Virtual Campus’ environment, which was most effective in addressing the identified barriers to study for participants in the Intervention Studies reported in this thesis.

The following chapter explores the literature relating to the three interlinking areas of interest to this thesis, these being disability studies (including models of disability), computer mediated communication (CMC) and educational counselling/advice.
Chapter 2: An Exploration of the Literature in Related Fields: Disability, CMC, and Educational Counselling

2.1 Introduction

This chapter explores the literature in three interlinking areas of interest to this thesis. These are disability studies, computer mediated communication (CMC) and educational counselling/advice.

Section 2.2 presents a critical appraisal of the models of disability defined by researchers in this field during the final decades of the 20th century. The literature in this area was investigated in order to gain a fuller understanding of the position in which disabled people find themselves within society in general and to see if there was any resonance with the experiences identified by distance learners with long-term health problems.

Secondly, Section 2.3 considers the literature relating to the development of the use of computer mediated communication for study support in order to understand and assess its potential value to distance learners with long-term health problems in tertiary education.

Thirdly, Section 2.4 considers the literature relating to the functionality of an educational counsellor/advisor and the position of this area of expertise in the context of the wider field of therapeutic counselling. The position of an educational counsellor within the Open University is explored within this context, since it is the counsellor that deals with problems that Open University students encounter with their studies, whether they are able-bodied or disabled in any way.
Finally Section 2.5 reflects on the issues highlighted as important from the literature reviewed. These include: (i) a need for further investigation into the barriers faced by people with long-term health problems; (ii) the high importance attached to maintaining autonomy in decision-making relating to their personal needs on the part of disabled people; (iii) the potential value of using the services of an intermediary as a channel of liaison between an individual and institutional support services to maximise student autonomy; and (iv) ways in which CMC might be useful to support a variety of facilities for those with disabling conditions.

2.2 Models of Disability

Academic models of disability are artificial constructs that have been applied by researchers in this field as a convenient way to describe different approaches to the types of support offered to people with disabilities. As such they are useful tools from which to gain an understanding of the important issues surrounding disability and their pertinence to the experience of disabled distance learners. These models can be grouped under two major headings: the Medical or Deficit model (Finkelstein 1981a), sometimes also called the Individual model (Oliver 1983), and the Social Model (Finkelstein 1981a; Oliver 1983) together with its later refinement the Social Barriers model (Finkelstein 1990; 1996). These terms were coined by Finkelstein and Oliver respectively to illustrate their perception of the support offered to disabled people in the early 1980s (the Medical model) and a preferred new type of approach (the Social model).

The Medical model is described as a situation in which problems experienced by disabled people are considered to be a direct consequence of their disability (see Finkelstein 1981a; Oliver 1983). A professional’s task is then twofold; firstly to provide rehabilitation to return the individual to normal physical functioning, and secondly to help the individual to
come to terms with his/her limitations. On the other hand, the Social model is based on the view that it is society which throws up barriers to participation and that such barriers need to be addressed more generally (see Finkelstein 1981a; 1990; 1996; Oliver 1983; 1990; 1996). The respective strengths and weaknesses of these models are discussed below.

### 2.2.1 The Medical model

In the Medical model the emphasis is clearly on addressing difficulties arising from the disabling condition, to enable the individual to function in a world designed for the able-bodied. The implicit assumptions contained in this model were initially set out by Finkelstein (1981a) and have been discussed by a number of other researchers, (including Oliver 1983; McKnight 1981; Newell and Walker 1991; Newell 1998). From the point of view of the professional this type of approach provides a convenient and easily understandable framework from which to define and measure the problems experienced by individual clients. Assessments made on an individual basis enable difficulties to be evaluated in a relatively simple way. Once the problems have been identified, then specific types of assistance can be prescribed.

There may be some advantages for the individual in such an approach because help can be tailored to suit specific requirements. Aids may be available of which the client was not aware and which can resolve particular difficulties. This possibility is acknowledged by both Finkelstein (1991) and Oliver (1996). However, from the perspective of someone suffering from a disabling condition, it may convey the message that s/he is deficient or lacking in some way. This approach can suggest that the problem lies within the individual, with a consequent risk of erosion of self-confidence and self-esteem. This is usefully summarised by McKnight (1981):
You are deficient
You are the problem
You have a collection of problems

(McKnight 1981 p29)

He argues that the services system is constructed to support this proposition.

In terms of service systems and their needs, the propositions become:

We need deficiency
The economic unit we need is individuals
The productive economic unit we need is an individual with multiple deficiencies….

(McKnight 1981 p29)

Thus one of the major criticisms of this model identified in the literature (e.g. Finkelstein 1981a; Oliver 1983; McKnight 1981; Newell 1998) is that whilst it may be the most convenient approach for professionals, it may have the effect of undermining an individual disabled person’s perception of self worth.

A further disadvantage of this approach is that decisions over many aspects of life are made by professionals rather than by the individuals themselves, resulting in considerable diminishment of personal autonomy. Hunt (1966) deplores this situation and challenges society to listen to the voices of disabled people in order to allow them freedom to control their own decision-making on matters that intimately concern them. This was a concern highlighted by Miller and Gwynne (1972) when they investigated (at the request of the residents) the running of a Home for the Disabled. The researchers commented on the way in which severely disabled people were regarded by society as a homogenous group needing to be set apart from society and cared for in an institutional environment.

‘by the very fact of committing people to institutions of this type society is defining them as in effect socially dead, then the essential task to be carried out is to help the inmates make their transition from social death to physical death.

(Miller and Gwynne, 1972)
This report gained notoriety amongst disabled people, provoking a storm of controversy that provided the catalyst for change. It ignited a vigorous emancipatory movement amongst those wishing to establish support services that would enable them to live independently in the community. Finkelstein (1991) asserts that Miller and Gwynne’s findings implied that the function of a Home for the Disabled was to manage the process from social death to actual death as humanely as possible. Such an implication was regarded as an affront to human dignity and the right of disabled people to maintain control over their own lives. New groups formed, including the Union of the Physically Independent Against Segregation (UPIAS) and the Liberation Network of People with Disabilities, who argued that disabled people were an oppressed group within society, thus introducing a political element into the debate (Finkelstein 1991). The definition of a new Social model of disability by researchers emerged as a result of this paradigm shift.

2.2.2 The Social model

One of the major problems with the Medical model was that diagnosis labelled the individual as deficient and placed him/her outside mainstream society. This has been shown above to be a simplistic view of the situation. Those proposing a Social model argue that it is society as a whole that throws up barriers to participation for the disabled and that such barriers need to be addressed more generally (see Finkelstein 1981a; Oliver 1983, 1990). This exclusion is neatly illustrated by Finkelstein’s (1981b) description of an able-bodied minority in a society of wheelchair users, in which the former find they are the excluded ones. Finkelstein’s parody begins with a society made up of wheelchair users who construct a social system to suit their particular requirements. Houses are built with low doorways. The few able-bodied people who arrive to live in this society soon discover that they are social misfits. For example, they become injured through knocking their
heads on the low lintels. The result is that special aids have to be designed to protect them. They have difficulty in finding work because of their non-conformity. As a result they become objects of charity. The use of such an allegory to highlight areas of difficulty may be thought provoking for able-bodied members of society who may previously have had no occasion to question standard provision of facilities that cause them little or no difficulty. Hence Finkelstein draws attention to the problems posed by society itself to disabled integration. This requires a change in thinking, with a new Social model of disability (Oliver 1983) switching the focus away from individual physical limitations to the ways in which the physical and social environments impose limitations on certain groups.

To illustrate this view Oliver (1983) takes as an example different approaches to housing for disabled people. In an Individual (Medical) model, the focus is on the functional limitations of individuals in attempting to use such facilities as baths, kitchen equipment or stairs. In contrast, the Social model regards disability as created by the way housing design in general is unsuited to the needs of some individuals. Oliver therefore suggests advantages in a change of policy towards the design of adaptive environments that do not unduly restrict people with such limitations. For example, doorways wide enough to accommodate wheelchairs will also be equally accessible by able-bodied people. Oliver (1990) later argues that it is society’s failure to provide appropriate services and to adequately ensure that the needs of people are fully taken into account in its social organisations that is the cause of the problems encountered. In his view, a central tenet of the Social model is that problems can only be resolved by groups or collectives of disabled people working together and that effective solutions cannot be imposed from outside or above.

A useful illustration of the differences in approach between the Medical and Social models is provided by Newell (1998). He contrasts the way in which the most usual type of
phrasing of official documents may reinforce the individualisation of difficulty (as in the *Medical* model) with alternative wording suitable to a social approach. He cites the following example drawn from a survey of the Office of Population, Census and Surveys (OPCS), which words a question thus:

1. What complaint causes your difficulty in holding, gripping or turning things?

Newell argues that reformulated in a social way this question could be turned on its head to read:

1a. What defects in the design of everyday equipment like jars, bottles and lids cause you difficulty in holding, gripping or turning them? …

(Newell, 1998)

This example highlights the crucial effect of phraseology since in (1a) above the problem is no longer viewed as an individual deficit but as lying within society itself.

The *Social* model takes an approach that emphasises the inclusion of disabled people within society, rather than segregation in institutionalised care. The distinction made by Oliver (1996) between the terms ‘integration’ and ‘inclusion’ is important in connection with this issue. He argues that the former term carries connotations of a need to conform to able-bodied norms (the *Deficit* model) whilst the term ‘inclusion’ implies societal acceptance of the disabled person as he or she is.

The *Social* model of disability has been further developed into a *Social barriers* model. This model permits both barriers encountered in everyday life in a world designed for the able bodied and the issue of individual need to be taken into account (see Finkelstein 1990 and 1996; Roulstone 1994). Roulstone, 1994 identifies three types of barrier which are encountered in the workplace by people with disabilities: (i) environmental barriers
(encountered in a working world designed for the able-bodied); (ii) technical barriers (the neglect of technological aids which are simple but effective); (iii) barriers of attitude (a lack of understanding/comprehension about the nature of disability on the part of able-bodied members of society). This leads to the conclusion that disabled people perceive their difficulties in terms of barriers to be overcome rather than a need for professional analysis of individual need to redress a perceived deficit.

Finkelstein’s *Social barriers* model is, however, based on the assumption that a disabling condition will be stable. He acknowledges that there may be differences between the experience of those falling into this category and those suffering medical conditions needing on-going treatment. This point is discussed further by Oliver (1996) when comparing the *Medical* and *Social* models. He acknowledges elements of unease with aspects of both models amongst professionals and people with disabilities which suggest that neither model can satisfactorily encompass the experiences of all those with disabilities.

My criticism of the two models is that a description of the experience of those with long-term health problems is neglected and merits attention. The experiences of those suffering from medical conditions which can frequently fluctuate in severity and symptoms, often on a day to day basis (e.g. Multiple Sclerosis, Myalgic Encephalomyelitis [a relatively new condition] and a number of others in this category), merit further attention.

The frameworks discussed above were constructed by social scientists Finkelstein and Oliver to offer a description of disability for research purposes. One further model that relates to the methodological approach employed when researching disability matters has emerged as a result of the groundswell movement of disabled people seeking to take
control of matters that concern them. This is known as the *Emancipatory* research model. The literature relating to this approach to research is discussed below.

### 2.2.3 The *Emancipatory* research model

The concept of an *Emancipatory* approach to research developed largely from the experience of academics themselves coping with disabling conditions. However, that does not mean that there is universal agreement as to what fits comfortably within this research umbrella. Positions range from a definition where input of ‘the researched’ is included in both the design of the project and evaluation of the findings (Zarb 1992) to Morris's (1992) definition of research that seeks to further the interest of ‘the researched’ (not necessarily involving the researched group in the design process).

Zarb (1992) makes a distinction between research which is participatory and that which is emancipatory. He argues that for research to qualify as emancipatory it is necessary for disabled people themselves to control the research. In his view it is necessary for consultation with disabled groups on the proposed methodology to be undertaken before the research process begins and for the researchers to make their results subject to scrutiny by disabled people themselves. Oliver (1992) strongly advocates an emancipatory approach to research, consistent with his view (described earlier – Oliver 1990) that effective solutions cannot be imposed from outside or above. Finkelstein (1992) is another researcher to explore this position. Barnes (1992) argues for the *Emancipatory* model by pointing out the inadequacies of the *Medical* and *Social* models. He asserts that there is an implicit assumption in studies carried out by the former methodologies that, given the facts, governments will act and changes will occur for the better. He argues that this assumption is false, citing the lack of effect in the area of disability policy. Morris (1992) takes a broader view, defining *Emancipatory* research as that which seeks to further the
interest of ‘the researched’. This latter position provides more flexibility when undertaking research than would be the case when working within the more rigid definitions discussed and may therefore have greater utility.

Models of disability were constructed by researchers to offer frameworks from which to describe the position of disabled people in society in general. However, the Medical and Social models can also provide a framework to consider the development of educational provision for disabled students. The literature relating to this area of interest is considered in the following section.

2.2.4 Barriers to participation in Higher Education

Evans and King (1991) give an overview of the educational provision for disabled students in Australia, which illustrates the dominance of the Medical or Deficit model in education. They argue that until the 1980s inappropriate services had been provided for those with disabilities which further entrenched their dependence on others. They prefer an approach based on a Social model that aims to remove barriers to study erected by society. This includes the necessity for an institution to make facilities to support study accessible for those with disabilities. It also places responsibility on the individual to raise any accommodations necessary to address special needs with support services (rather than these being dependent on an assessment of need by professional).

More recently Dawtry (1997) describes a clash of two different cultures encountered in the European Union Helios II programme. She regards the cultural climate of the French educational system as falling into the Medical model. In France, decision-making on the needs of disabled students is clearly taken out of their hands. Instead, ‘experts’ dictate what support they consider necessary. Dawtry argues that such a model can diminish the
autonomy of the student. Instead she prefers a Social model that aims to remove barriers to participation erected by society, as an example pointing to that in use in The Open University. Her description of the model introduced by the Open University in recent years is, however, one that arguably lies on the cusp of the Medical and Social models. The classification criteria specified by the university in the year 2000 illustrate that it is considered by the institution itself to fall completely into the social category. Student needs are now classified by more general criteria relating to areas in which they need help, as set out in the following extract from the Open University web pages.

... The University has moved away from a 'Medical Model' of disability in which students were defined in terms of medical condition (e.g. muscular dystrophy, multiple sclerosis) towards a 'Social Model' where disability is viewed primarily as the product of social, economic and political factors. This is reflected in a new system for classifying disability where the emphasis is on functions or 'areas of disability' likely to affect study activities. The University has deliberately chosen its own disability classification rather than the one recommended by the Higher Education Statistical Agency (HESA), although individual student data is converted to the HESA definitions for annual statistical returns.

<table>
<thead>
<tr>
<th>OU Disability Definitions</th>
<th>HESA Disability Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sight</td>
<td>Dyslexia</td>
</tr>
<tr>
<td>Hearing</td>
<td>Blind/are partially sighted</td>
</tr>
<tr>
<td>Mobility</td>
<td>Deaf/have hearing impairment</td>
</tr>
<tr>
<td>Manual skills</td>
<td>Wheelchair user/have mobility difficulties</td>
</tr>
<tr>
<td>Speech</td>
<td>Personal care support</td>
</tr>
<tr>
<td>Dyslexia</td>
<td>Mental health difficulties</td>
</tr>
<tr>
<td>Mental health</td>
<td>An unseen disability</td>
</tr>
<tr>
<td>Personal care</td>
<td>Multiple disabilities</td>
</tr>
<tr>
<td>Fatigue/pain</td>
<td>A disability not listed above</td>
</tr>
<tr>
<td>Other</td>
<td>Information not sought</td>
</tr>
<tr>
<td></td>
<td>Not known …</td>
</tr>
</tbody>
</table>

(Open University 2000)
http://www.open.ac.uk/OU/Admin/access/classification.html)

The change from a Medical to Social model described above took place in 1995. In some respects, both of these classifications may be more helpful than categorisation by health condition. Notwithstanding, it could be argued that this model still takes a route that seeks
to address individual needs to enable the student to function in a world designed for the
able-bodied.

In relation to entry to the field of Higher Education, Hammer and Shale (1985) identify a
set of more generally applicable barriers in distance learning relating to the results of a
study conducted at Athabasca University in 1979-80. These are:

- **Dispositional** i.e. those in the learners domain (e.g. poor health, disability)
- **Situational** including distance from an appropriate post-secondary
  institution, fatigue, family responsibility
- **Institutional** in the domain of the institution, including entry
  requirements, course offerings, timetables etc. …
  (Hammer and Shale 1985)

Whilst these are not barriers that are specifically disability related, each has elements that
are highly relevant to those entering higher education who suffer from long-term health
problems. Hammer and Shale (1985) propose the use of distance learning as a positive way
in which to address them, since this provides a more flexible environment in which to
study than does a conventional university campus. These researchers identify several
important factors. Firstly Athabasca had removed formal educational prerequisites to
study for entry to courses. Alternative delivery techniques were used, including the use of
modern media and correspondence technology to remove problems associated with
distance and inconvenient times for study. Access to advisory services, usually by
telephone, was provided for career and educational planning, admission and program
planning. Their findings suggest that distance education is especially suited to people for
whom traditional forms of education are inappropriate or inaccessible, including those with
disabilities. The type of provision they describe has similarities with that in use within The
Open University. However, it would be unwise to assume that distance education can be
viewed as a universal panacea. There is also a need to explore possible hurdles that might arise in studying by this method.

In the USA, the recent implementation of the Americans with Disabilities Act (ADA) means that colleges and universities must provide ‘equal and equitable access’ to individuals with disabilities as for the non-disabled. Stewart (1994) highlights the implications of this Act for the field of distance education. These include such issues as site accessibility, program access (e.g. accessible web pages, video workbooks, alternative format versions of class material), academic accommodation and access to adaptive technologies. The question then arises of whether this type of provision fits within a Medical or Social model? This is an issue addressed earlier by Newell and Walker (1991, 1992). They argue controversially that the ‘special’ approach advocated by the Australian government in 1992, which suggests the use of distance learning as the best type of future provision for those with disabilities, is based on the Medical (Deficit) model (Newell and Walker 1992). They argue that an emphasis on equity rather than equal opportunity could result in an unacceptable form of control. Since the substantial funding required to implement the proposed provisions was not available, Newell argues that this opened the way to inequality of provision. Individual establishments might place different priorities on the needs of students with disabilities. He acknowledges that there is no easy answer to this dilemma. Whilst the potential of CMC as a liberating movement was appreciated, it was argued at that time that provision via this medium could be patchy and therefore inequitable.

In a later study relating to the potential impact of an Open Learning initiative in Australia, Walker (1994) reports the three top positive and three top negative findings. The three positive outcomes for using distance education are that it can: (i) give all people an opportunity to gain a university degree, (ii) relieve physical barriers of access and (iii)
reduce geographical isolation. All of these issues relate to a Social model since they place the issues in the domain of society rather than at the door of the individual. The three negative outcomes include: (i) difficulty in accessing support/advice services, (ii) difficulty in accessing library research facilities and (iii) isolation from academic support. This list provides a good summary of the key advantages for distance education. Reflection suggests that there might be ways in which the use of CMC could address the areas of concern that Walker identifies.

A further illustration of the growing awareness of the need to address the issue of personal autonomy for people with disabilities is drawn from the proceedings of the 5th International Conference on Computers Helping People with Special Needs (Klaus et al. 1996). The editors highlight the change in the conference title for that year, which emphasises the shift towards recognition of the need of support systems to respect the autonomy of the disabled person; hence the change from ‘Computers for Handicapped Persons’ to ‘Computers Helping People with Special Needs’. Such an approach illustrates a movement from a Medical to a Social barriers model.

Franek (1996), a visually impaired student at the University of Prague, provides an example of the relationship between autonomy and a perceived need for peer group privacy. He argues that experience within his own educational environment suggests that there is a need for a private area to provide a ‘refuge’ that compensates for the extra stresses experienced by those with impairment. When initially the facility was also open to able-bodied students (which would at first seem to be appropriate to a policy of societal integration), the result was that the disabled students were crowded out. Ultimately it was little used by those for whom it was intended. After the visually impaired users requested that the room should be reserved for their use only, it became extensively used by the blind students, not only as a working environment but also as social space. This example may at
first sight appear to run counter to the desire of disabled people not to be segregated from society (discussed in Section 2.2.1). However, it highlights an important point in relation to the distinction made by Oliver (1996) between the terms social integration and inclusion (see Section 2.2.2). In taking control of their space to provide a private area for discussion and recreation, these students were asserting the autonomy of the group and their desire to be included in the life of the university on their own terms. The locus of decision-making moved from the professional to the disabled group. The crucial issue here is the need to respect autonomy. This example suggests that a Social model is not wholly satisfactory to cover all situations.

Newell and Walker (1991) describe an experimental low key integrated approach designed to ease access and provide support that addresses both individual needs and social barriers within a conventional campus environment, that of the Tasmanian State Institute of Technology, thus combining elements drawn from both a Social barriers and a Medical model. Evans and King (1991) support the concept of such an approach, designed to ease access and provide support. The design emphasises the autonomy of the student within a conventional university situation. It is based on the philosophy that students with special needs (not confined to those with disabilities) should have control over their education and be in a position to articulate their views on matters that concern them. Both on and off the campus, the dynamics of this proposed structure would involve the appointment of an appropriate person (preferably with a disability) as a Disability Liaison representative in each teaching school. Appropriate action would be taken after negotiation between the liaison representative and the student. Reflection suggested that it might be possible to adapt this type of provision for use in a distance-learning environment.
Summary of literature relating to models of disability

In summary, two main models of disability, the Medical and Social models, have been identified from the literature. A third model, the Emancipatory research model, relates to the methodological approach considered most appropriate when researching in the field of disability. Examples of educational provision relating to the Medical and Social models in education have been discussed. However, no research studies which took an Emancipatory approach were identified in this field. A key need identified from an appraisal of these models is for support to be provided which will maintain or enhance the autonomy of the individual rather than maintaining a culture where decision-making on special needs falls clearly into the domain of the professional. A major criticism is that neither the Medical nor Social model is able fully to take account of the needs of those with long-term medical conditions which may have frequent fluctuations in symptoms and severity.

An appraisal of the literature relating to the field of educational provision for students with disabilities suggests that the use of a Medical model still dominates. However, there is evidence of a growing awareness of the need for change and versions of a Social model are advocated by a number of researchers in this context. The approach to student support described by Newell and Walker (1991) raises the possibility that this type of service (designed to respect student autonomy) might be adaptable to distance learning. It might be possible to use computer-mediated communication (CMC) as a route for access to support services. Piloting such an approach might fit readily under the umbrella of an Emancipatory research model. In this connection, the following section explores the literature relating to the development of Computer Mediated Communication (CMC) to support student study and its potential value to those with disabilities.
2.3 The potential of CMC for student support

The literature reviewed in the previous section explored models of disability which reflect alternative views about the type of approach that is needed to support disabled people within society, and in particular students with disabilities. Distance education can provide one possible route for study for such students. One of the major developments in distance education over recent years has been the use of CMC. This section begins with a brief overview of the origins of the use of CMC in an educational environment. It is followed by an exploration of the literature relating to the design of structured on-line environments to support study and how these may be tailored to fit particular requirements. The views of a number of researchers on ways in which CMC may address the potential problem of isolation experienced by distance students are then considered, together with ways in which empathic on-line Internet communities may inform potential applications in distance education. Finally, the relative merits of using CMC for people with disabilities are discussed.

2.3.1 From early beginnings to the present day: the development of the use of CMC in distance learning

The use of CMC in distance education has developed rapidly over the course of the past decade. Within the Open University UK, the first large-scale use of this medium to support study as part of a multi-media distance education course, dates back to 1988. Connections were made to a computer conferencing system (CoSy2) on the Open University network via the public telephone network. It was necessary to input text while connected to the system (often at long distance call rates), using what would now be regarded as a primitive modem working at a very slow speed. Mason (1989) proposed that
the unique qualities of computer conferencing were that it afforded communication among a wider community, which increased feedback, offered support and guidance, and provided opportunities for social contact. Since that time, there have been dramatic changes in the development of data-communications networks, with improvements in modem speeds, local connection access points and the availability of an off-line reader capability. This means that far more ambitious use of the medium to support study has become possible in recent years. Alexander and Lincoln (1989) first described the ‘Thought Box’, a pioneering concept in experimental computer-based communication system designed to support distance learning in 1989. The underlying concepts of such a comprehensive system may be regarded as innovative and influential forerunners of the ‘Virtual Campus’ computer conferencing systems that exist today, examples of which will be discussed below.

A key issue that emerges from the early literature in this field is the importance of a carefully considered design for the on-line environment to facilitate successful collaborative learning. Harasim (1989), reporting on the experience of the use of CMC at the Ontario Institute for Studies in Education, is one of the first to identify this need. Florini (1990), working in the field of adult education at the University of Syracuse, is another to observe that, because of the relative newness of computer conferencing, there were few existing precedents and norms for its use at this time. She points out that courses may be designed to be either student-centred or teacher-centred and that instructors can encourage either a formal or an informal class atmosphere. There was therefore a rare opportunity for educators to shape the way in which technology is used and for research contributions to enrich the pool of knowledge in this area.

Rekkedal (1992) introduces the concept of a ‘Virtual School’ using EKKO, a computer conferencing system specifically designed for distance education in Norway,
acknowledging the work of Hiltz at the New Jersey Institute of Technology as the source of inspiration for this (see Hiltz 1986). Amongst potential advantages he proposes are the possibilities offered for peer counselling and informal co-operation. Opportunities for such contact are easily available in a conventional campus situation, but not in a distance learning environment. These were not however formally investigated in his study.

Stacey (1997) provides a more recent example of a ‘Virtual Campus’, a study of the collaborative learning experience of a group of Master of Business Administration (MBA) students at Deakin University, Australia. Participants in this study considered it important that use of CMC should form a relevant and well-structured part of their course. Stacey therefore concludes that it was desirable for conferences to have a clearly defined purpose and protocol. Other examples describing the setting up of new ‘Virtual Campus’ distance learning environments are reported by Ferraté (1997) at The Open University of Catalonia, and Uys (1997) at Wellington Polytechnic, New Zealand. In both cases these were in the early stages of implementation, and whilst both researchers were enthusiastic about potential benefits no evaluation studies were available at that time.

An important concern running through this literature is what kind of structure should be adopted when designing a CMC environment in an educational context. The following section explores the literature relating to this issue and discusses the options appropriate for different circumstances.

2.3.2 The structuring of computer conference environments: fitting the function to the purpose

Feenberg (1989) is an important early contributor to theory on the design of effective structures for computer conference environments. He argues that these include such issues
as who needs to communicate with whom, and how many topics (‘rooms’) of what size are required to fulfil the task of the group. In his view the role of a conference moderator is a key factor for successful implementation. The appropriate leadership role of this person may be variously chairperson, host, teacher or facilitator. This is a strongly directive model for a conferencing environment, which is arguably most appropriate in a formal learning environment but may not be suitable for all applications.

One example of the type of tightly structured environment advocated by Feenberg is the Tutorial model, described by Mason (1995). This is the most commonly used CMC model to support study in tertiary distance education to date. In this model the conference area is structured to provide a route for support for students taking one particular course, enabling contact with course tutors and fellow students.

Rowntree (1995), reflecting on his experience of tutoring a short Open University course for teachers and trainers on-line based on a Tutorial model, identifies four main categories of tasks for tutors using this medium: organisational, structural, social and conceptual. He observes that in the social function the tutor fulfils a different type of role, that of moderator, which is not quite synonymous with that of the tutor but more akin to a facilitator. In the light of this comment, it is interesting that Wilson (1995) introduces a new role into a Tutorial model, that of an Interactive Media Facilitator (IMF) with separate responsibilities from a course tutor. In the context of an experimental course-based project, STILE, the IMF became an independent controller of the conference area, responsible for: (i) constructing the environment; (ii) acting as a facilitator and motivator; (iii) encouraging participants to take full responsibility to utilise the medium for teaching and learning; and (iv) developing introductory materials to guide the students in their use of new technology (in this case to help bring them on-line and give instructions on how to use the conferencing system). Thus the workload for course tutors was reduced, leaving
them free to attend to the students in their own particular tutorial conference. In later work (Wilson and Whitelock 1996; 1997; 1998a) Wilson and Whitelock propose that the learning environment should be designed to facilitate student interaction in the following three dimensions:

- A knowledge dimension
- A social dimension
- A motivational dimension

Here the role of the IMF was greater than that of a moderator as described by Feenberg, operating in a dynamic environment and having far wider responsibilities.

Moore (1994) identifies autonomy and interdependence as important to the establishment of a CMC group learning environment. He comments that whilst successful groups exhibit a high degree of interdependence among relatively autonomous individuals, often the group members will cluster around an informal leader who emerges as a chairperson. The result is an environment in which there is a high degree of participation, division of labour and collaboration. In this scenario a leader emerges from among participants, rather than being appointed to administrate an area in advance as has been suggested is best practice by Feenberg. However, again the role of moderator (albeit in this case not a formally designated leader) emerges as important.

One common theme to emerge from the commentaries of all these researchers is the importance of the role of a moderator or facilitator in creating a conference environment that will encourage active participation by students in a CMC distance learning system.
This section has explored the literature relating to strongly structured conferencing environments, emphasising the teaching advantage. There are, however, other less formal ways in which the use of computer conferencing can be of value. One of the potential problems for distance learners is that of isolation. It may be that some students may prefer to work alone and therefore choose to study via this route. In other cases however (e.g. for reasons of disability, living in an isolated location, or caring for dependent relatives), distance learning may present the only possible route for study, and students may be isolated by necessity rather than choice. The literature relating to ways in which isolation may be addressed by the use of CMC in such circumstances is discussed in the next section.

### 2.3.3 The potential of CMC to reduce social isolation

The theme of isolation in distance learning is another important issue for consideration that emerges from distance education literature. In relation to a CMC Tutorial model, Mason (1995) reports that student feedback consistently shows that students value the interaction with other students as much as with the tutor, creating the kind of community usually found only on a campus. In a later report she comments that student feedback endorses the view that one of the main benefits of the medium is its contribution to creating a social environment for learning (Mason, 1997).

Jennison (1997) comments on the effectiveness of more informal contact via a ‘Virtual Campus’ to relieve isolation for tertiary distance learners via Self Help Groups. Her observations are drawn from studying the interactive discussions of a number of student-initiated Self Help Groups on the Open University ‘Virtual Campus’ of the time. This used CoSy4/Wigwam software, a text-based system with an off-line reader capability. She provides illustrations drawn from student messages to demonstrate the high value that
students placed on the ability to mix freely across course boundaries and to set up Self Help and Special Interest groups using CoSy4. Jennison argues that using CMC in this way creates a sense of belonging to a corporate body, akin to the experience of students on a traditional campus. More recently, other researchers considering possible applications of CMC to address isolation for distance learners include Lake (1999), Katchoff and Ryan (1997), Hirschbuhl, Bishop and Frear (1997), Uys (1997) and Stacey (1997).

For example, Lake (1999) reports that use of a web based ‘Virtual Campus’ environment at Murdoch University in Australia had beneficial effects in addressing both physical and psychological isolation from peers and academic staff when working at a distance. This approach was adopted here as a way to address a previously unacceptably high course withdrawal rate of 43%. Lake concludes that the findings from this study suggest that the form of interactive support afforded by the use of CMC strengthens students’ feelings of connectedness and that they do become an integral part of the university community.

Informal social contact also occurs in the wider world of Internet conferences, and understanding the ways in which these niceties operate is an area that has attracted the attention of researchers. The following section examines this literature, and in particular focuses on the phenomenon of so-called ‘empathic on-line communities’, with a view to discovering any insights which might be useful and transferable to an educational environment.

The emergence of ‘empathic on-line communities’ in cyberspace

With the number of new users of the World Wide Web increasing rapidly over time, so called ‘empathic on-line communities’ have emerged that link together participants from many different locations. Often such conferences consist of users with a strongly shared
community of interest who come together to discuss their experiences, to offer support to and receive support from each other. This new phenomenon has resulted in an upsurge of interest among researchers wishing to uncover and understand the mechanisms by which such groups operate. In very simplified terms, this type of virtual conference may be set up by a user who wishes to initiate a discussion group in a particular area of interest on the open Internet. Such areas are usually open to all comers. They may grow in two ways: firstly by gathering active participants from among those who may discover their existence serendipitously when browsing the Internet, and secondly by participants joining having being alerted to the existence of the conference by existing users.

A study undertaken by Parks and Floyd (1996) to investigate the extent and nature of on-line relationships in Internet newsgroups indicates that high levels of relationship development are occurring on-line. They suggest that this mode of communication may present potentially advantageous new opportunities for those who are isolated or disabled in ways that restrict or stigmatise them in face-to-face situations.

Rheingold (1993) describes the advantages he experienced as a participant on one of the earliest Internet ‘Virtual Communities’, the ‘WELL’. He argues that the reason for the formation of co-operative groups (both on the Internet and in everyday life) is the recognition by members that they have something of value to gain by banding together. In the case of the WELL he describes this as ‘collective goods’, based on a framework set out by Smith (1992). Smith proposed three categories into which these may be grouped, as set out below.

- Social network capital
- Knowledge capital
- Communion
As examples, Rheingold describes network capital as having found a ready made community in Tokyo (despite never having been there in the flesh); knowledge capital as the availability of an on-line brains trust of members representing a highly varied accumulation of expertise; and communion as support provided by the group to individual members in times of personal difficulty.

There are similarities here with the knowledge and social dimensions of the STILE environment described earlier (Wilson and Whitelock 1998a). Where they differ is in the third dimension. In the case of the STILE project the structure was designed to provide a motivational element in a course based educational environment. In Rheingold’s scenario the WELL conferences developed informally, the social ‘glue’ being a shared community of interest, in his particular case common problems faced in parenting.

Preece and Ghozati suggest that shared empathy is important to the success of on-line Internet communities (Preece 1998; Preece and Ghozati 1998a; Preece and Ghozati 1998b). In Preece’s (1998) definition, the concept of empathy is viewed essentially as a two way communication process. It is defined firstly as an ability to identify with and understand another’s situation, feelings and motives; and secondly as communicating understanding, sympathy and love. Her interest in this area stems from observing behaviour on bulletin boards, Listservs and UseNet groups and in particular a medical discussion group focused on problems related to a sports injury of the knee. Preece (1998) concludes that those sharing a strong or narrowly focused shared interest demonstrate a higher level of empathy towards each other than those who do not.

In a later study of 100 Internet communities Preece and Ghozati 1998a conclude that empathy was much stronger in most of the patient and emotional support conferences than in other communities. There are similarities here with Rheingold’s findings in the case of
the WELL conferences. The findings of these studies suggest that peer sharing in on-line communities may be of value to those facing similar life conditions.

Jones (1997) introduces an interesting new perspective on the concept of community in relation to Internet conferences, arguing that it is social context rather than technology that is the dominant influence in the formation of individual communities. He proposes a novel approach to researching the nature of virtual groups in cyberspace. This approach, which he terms cyber-archaeology, provides a set of linguistic tools to investigate the material produced by such communities and archived on many computer servers. The essential thrust of his argument is that is necessary to make a distinction between a virtual settlement (the cyber-place where communication takes place) and a virtual community (comprised of the inhabitants). Jones’ formal criteria for proof that a virtual settlement exists are that there are: (i) a minimum level of interactivity, (ii) a variety of communicators and (iii) a virtual common place where a significant proportion of interactive group CMC occurs. In these terms a newly set up virtual environment can be no more than a cyber place unless and until it becomes populated with participants (settlers) when it qualifies as a virtual settlement. In turn it is a sufficiency of interactive discussion in a virtual settlement that leads to the establishment of a virtual community.

This definition is of interest in relation to the formal design of structured conference environments. In terms of Jones’ (1997) definition, the type of strongly structured area advocated by Feenberg (discussed earlier) will succeed only if those with access to it perceive it to be serving a useful function that motivates them to contribute. The work of Rheingold, Preece and Jones variously suggest that less rigid structures that grow organically to become virtual settlements may serve a useful purpose in providing informal support, particularly for those who share a strong bond of common interest. However,
other researchers have identified potential pitfalls in communicating via this route and proposed ways in which these might be addressed. These are discussed next.

2.3.4 Some potential pitfalls of CMC and possible ways to address them

Fox (1998) is among those to suggest some negative consequences that could occur when using virtual support groups. These include the possibilities of: (i) obtaining incorrect information which is well meaning but misguided; (ii) becoming addicted to the medium and so decreasing other important forms of face-to-face social interaction; and (iii) harm through negative, hostile or malicious encounters. Point (iii) of the list above relates to the phenomenon colloquially known as ‘flaming’, that is to say the eruption of escalating abrasive arguments which sometimes occur in conversational exchanges in an on-line conferencing environment. This phenomenon is well documented, (for example see Siegal, Dubrovsky et al. 1986; Hiltz, Turoff et al. 1989; Dubrovsky, Kiesler et al. 1991; Lea, O'Shea et al. 1992; Parks and Floyd 1996).

Fox is writing in the context of open Listservs available to all comers in the largely uncharted waters of the World Wide Web, where formal control over conferences may be minimal. For this reason there is perhaps greater cause for concern than is the case in a university-based area, where use of conferencing is usually confined to participants with access to a closed, password protected network. Such environments are governed by conditions of use and a code of conduct enforceable by sanctions against participants who break the rules of acceptable behaviour. These precautions are designed to safeguard the interests of members of the community. Nevertheless problems can sometimes arise, and researchers have looked for positive ways to address the issue of flaming.
The opposite of antagonism is empathy, and Zimmer (1995) introduces a creative method to foster harmonious communication. His ‘empathy template’ is designed for use to support discussions in a course-based computer conferencing environment (Zimmer 1995; Zimmer and Alexander 1996). This involves the conscious use of particular phrasing in written responses to reinforce positive understanding and acceptance of another person’s position without recourse to acrimony when differences of opinion occur. Such techniques are based on a Rogerian counselling approach (discussed in Section 2.4) and in particular to the definition of an empathy cycle described by Barrett-Lennard (1981). Zimmer and Alexander conclude that the results of their study suggest that the availability of the template had proved useful to the participants when composing their contributions to conference discussions.

Summary

In summary, a review of the literature reveals the ways in which the rapid development in capability of CMC over recent years has opened up new opportunities to support the study of distance learners. Use of the medium has been highlighted as potentially beneficial as a means to address the issue of isolation for those studying via this route. A number of researchers advocate strongly structured conference environments, based on a Tutorial model as most appropriate to support study. In this context the role of moderator/facilitator has been identified as a central factor for the successful use of the medium. Other researchers investigating the social use of CMC on the Internet suggest that more informally structured environments may provide a different and potentially valuable dimension of the medium, enabling interactive peer-group discussion for mutual support for those facing similar life conditions. However, the literature also identifies potential negative consequences, notably the possibility of harm through negative hostile or malicious encounters (colloquially known as ‘flaming’). One novel measure designed
to promote positive communication by reference to an ‘empathy template’ when drafting messages has been suggested.

The literature reviewed in this section has concerned computer conferencing as a medium for interactive discussion for general use in an educational environment. The following section focuses on that relating specifically to the use of this mode of communication for those with disabilities.

2.3.5 CMC and disability support

Whilst the use of CMC may hold advantages for distance learners in general, there may be particular issues to consider relating to its use for those with disabilities. Bowers (1996) provides a useful overview of a number of advantages for this group. In particular she explores the views of Rheingold (1993) and Turkle (1996). Both of these researchers represent the school of thought that regards ‘Virtual Communities’ as transcending the traditional boundaries of community and creating a new medium in which it is possible for individuals to form interpersonal relationships. Rheingold (1993) argues that using CMC removes the initial challenge of having to explain a handicap to able-bodied people, thus enabling disabled people to be treated as thinkers and sharers of feelings. This is an example of a measure designed to address the type of ‘barriers of attitude’ described by Roulstone (1994) in a Social barriers model of disability (see Chapter 2.2.2). Rheingold also suggests that use of CMC enables those with disabilities to join in a conversation with the same delay in communication speed as other computer users on the system. This presumes the use of an off-line reader, which enables messages to be prepared and read at leisure. These are important points to consider in the context of the perceived need to increase autonomy for people with disabilities, identified earlier.
Coombs (1989) describes the use of CMC as promoting independence and freedom of choice for those with disabilities. His findings are based on the results of a pilot study using the medium to support both blind and deaf students taking a university course at the Rochester Institute of Technology (Coombs 1989; 1993). He observes that computer conferencing permits a lot of peer sharing and teaching, encouraging students to make connections between what they are learning and their own experiences and then to share their discoveries with each other. He further comments that participants share personal information more freely than if they were meeting face to face. This observation supports Rekkedal’s (1992) premise of the value of peer sharing described earlier. It also has resonance with the functions of ‘empathic on-line communities’ described by Rheingold (1993) and Preece (1998).

Further evidence of the value of text-based CMC for those with visual impairments is provided by Lauzon (1991). In his study at the University of Guelph a number of disabled distance learners were successfully integrated into a pilot ‘on-line’ course, with comparable performances to those of the other non-visually impaired users. He concludes that the use of CMC had been beneficial for this group of users.

On the other hand, Bowers (1996) acknowledges that there may be potential disadvantages associated with using enabling technologies for those with disabilities. She identifies one major potential difficulty, the cost of purchasing hardware and software and of running costs in working on-line, arguing that this might present a barrier to participation in a CMC project for such students who are likely to be on low income. Bowers makes the very valid point that special equipment is often expensive to buy because it is not fundamentally lucrative for manufacturers to produce adaptive technology that benefits only a small number of people. However, ways do exist which can help to minimise running costs. One positive practical conclusion of Wilson and Whitelock’s (1998a) study (see Section 2.3.2)
is that the introduction of an off-line reader would be beneficial in reducing the cost to students involved in using the system. In this case the results referred to the experience of a group of undergraduate distance learners taking one particular course. However, their finding is one that may well apply to those with disabilities taking any course. Other researchers too had earlier expressed concerns relating to cost, including Florini (1990) and Mason (1994). This highlights an issue that needs to be taken into consideration in further research.

Another development that has thrown up a new potentially isolating barrier to the use of CMC for blind users is the graphical user interface (GUI), which is now in widespread use in Internet applications. Coombs describes how this creates difficulties for those who are not able to see pictures on the computer screen (Coombs 1995; Coombs 1997). A major website, EASI (Equal Access to Software and Information) established by Coombs at the Rochester Institute for Technology provides a valuable focal point for the dissemination of information related to the use of CMC for disabled users. The site focuses primarily (but not exclusively) on the support of visually impaired students (EASI 2000).

Berry (1999) describes a recent study that compared the experience of partially sighted students with totally blind users of the Web. He reports that there were differences between the two groups. Those who are partially sighted are more at ease with use of the medium, which suggests that even a limited amount of vision can be useful when accessing websites. His findings emphasise the fact that there are continuing difficulty with GUIs at the present time.

Other researchers also describe the difficulties posed by GUIs in recent years (see Dixon 1995; Vincent 1995; Darvishi 1996; Karshmer 1996; Stoger and Burger 1996; Coombs 1997; Burgstahler 1997b and Burgstahler 1998). Solutions are gradually emerging. For
example, in relation to Internet web sites, some now offer text-based versions of their pages that are accessible using voice synthesisers. It is often the case that students with long-term health problems such as Multiple Sclerosis and Diabetes experience problems with their sight. This evidence of problems with GUIs emerging from the literature is therefore an issue of some relevance for this category of student.

In the light of the identified potential advantages and disadvantages of the use of CMC to support the study of students with disabilities it is interesting to consider some case studies of use of the medium. Two examples are the DO-IT project based at the University of Washington, Seattle and the Adaptech project based at Dawson College, Quebec. These are discussed below.

**The DO-IT project at the University of Washington**

DO-IT, (Disabilities, Opportunities, Internetworking, and Technology), an innovative project at the University of Washington, Seattle, is designed to enable high school students with disabilities of all kinds to explore course options which may lead to careers in science, engineering and mathematics (Burgstahler 1993). A holistic approach is taken, providing access to an enriched environment of support, using both a range of adaptive technology to facilitate computer usage (depending on the type of disability) and access to mentors and peers via the Internet. Scholars are loaned computers and taught how to use the Internet both for interactive communication with staff members, ‘mentors’ and other students and to explore interesting information relevant to their studies. There is also a yearly face-to-face Summer School at which students are able to participate in lectures and laboratory work using adapted facilities. Electronic contact with ‘mentors’, volunteer academics working in appropriate fields (often themselves with disabilities), to support and encourage student study is provided (Burgstahler 1997a). This last is an interesting use of a human
resource that might be adaptable to support the study of Open University undergraduates via CMC. However, it has to be noted that in the DO-IT project funding constraints mean that only a small number of students can be supported each year.

Burgstahler (1997a) concludes that CMC can help ease the social isolation and advance the academic and career goals of students with disabilities through peer support. Positive benefits identified by this study of using the medium in this way are listed below.

- Building the use of computer and Internet skills
- Gaining access to people and resources difficult to reach in other ways
- Sharing skills, information and knowledge with peers
- Receiving opportunities to act as role models and mentors to each other
- Providing friendship and support.

This is an example of a use of the medium to support students with a variety of disabling conditions that has successfully grown and developed over a number of years. By the year 2001 the DO-IT project has become well established and internationally recognised for its success in providing enabling support for such students.

**The Adaptech Project**

Another recently reported major project investigating the support needs of Canadian students with disabilities over a number of years (which has involved large-scale student surveys) is the Adaptech Project based at Dawson College in Quebec (Fichten et al. 1999). The focus of this project is on adaptive technology. As the name suggests, adaptive technology is equipment designed to facilitate access to computers and other technological equipment in order to accommodate particular physical needs. Examples of such
technology include such facilities as a screen reader and voice synthesiser for those who are visually impaired in order to provide access to course material held on a computer without recourse to lessons produced on Braille or tape (see Burgstahler, 1997b). Voice recognition software can enable work to be dictated into word-processed format on a computer for those not able to use a keyboard for various reasons. Touch pads or large roller balls provide alternatives to using a mouse for those with motor impairments.

Fichten and her Adaptech colleagues undertook a study intended both to evaluate the use and utility of computers and information technology for such students and to disseminate their findings to those responsible for services to increase understanding of student needs (Fichten 1999). They conclude that the use of computers proved critical to the success of students with disabilities. One unexpected finding from their project is the ‘cross use’ of enabling technologies. That is to say that students with one kind of disability may find technology originally designed for students with a different type of difficulty to be beneficial. For example, software that reads out what is on the screen is used not only by students with visual impairments, but also by those with a learning disability (e.g. dyslexia). This highlights the potential benefits to be gained if those designing solutions to address one particular problem take a wider view from the outset and consider what range of problems might usefully be addressed by tailoring applications to suit particular needs. Such an approach would be consistent with a Social model of disability.

Summary

In summary, the literature reviewed in this section has identified a number of advantages of using CMC for those with disabilities. These include the equalisation of communication with able-bodied students made possible by text-based CMC and the potential for sharing of skills, information and knowledge with peers. However, it has also identified potential
barriers to participation which might arise from the capital and running costs involved in the use of CMC, the use of GUIs and the need for continuing development of adaptive technology to facilitate use of computers by those with severely disabling conditions.

One further type of service for students that it might be possible to provide via CMC is access to an educational counsellor/academic advisor. In the following section the literature relating to the debate surrounding the nature of this role is explored.

2.4 Educational Counselling and Guidance

2.4.1 Introduction

There is a body of literature that explores definitions of the role of an educational counsellor/advisor, as distinct from that of a counsellor providing a service to members of the public at large. It is the former that is a particular focus of this thesis. One way of providing student support in Higher Education is through an educational advisory service, giving access to an educational counsellor/advisor at the point of student need. As individual queries and problems arise they can be handled and resolved on a personal basis. In some institutions this is achieved through a personal tutor who is also an academic advisor, but this role can differ from institution to institution.

Educational counselling practice may draw on some of the techniques associated with psychological counselling. However, the term is not traditionally used to denote an ‘in depth’ therapeutic approach. In this sense it differs from counselling in a social (or medical) environment where a client consults a counsellor specifically for psychotherapy in connection with an emotional or psychological problem.
In order to gain an understanding of where educational counselling/guidance fits within the whole field of counselling, this section begins by briefly considering the literature relating to the dominant strands of therapeutic counselling practice. This is followed by an exploration of definitions of educational counselling and guidance and the roles played by educational counsellors.

2.4.2. Therapeutic counselling practice

McLeod (1993) provides an excellent overview of the wide spectrum of practice that falls under the umbrella term of ‘counselling’. He identifies three broad schools of practice, these being psychological, cognitive-behavioural and humanistic counselling. Each has a different focus. Psychodynamic counsellors aim to promote client insight; behavioural therapists concentrate on the management of behaviour; on the other hand, humanistic practitioners focus on self-acceptance and personal freedom.

The first of these approaches, the psychodynamic approach is concerned with the influential techniques of psychoanalysis as developed by Sigmund Freud (1856-1939). This view implies that in even the most apparently balanced and rational people there are inner conflicts and instinctual drives.

McLeod identifies three main distinctive features of working in a psychodynamic way, these being:

(i) an assumption that the client’s difficulties originate in childhood experience;
(ii) an assumption that the client may not be consciously aware of the true motives behind his or her actions;
(iii) the use of techniques such as dream analysis, interpretation and transference therapy (McLeod 1993 p23).

For example, an irrational fear may be traced back to a traumatic childhood experience, consciously long forgotten but memories of which can colour reactions to events when the memory is triggered in adult life. This type of counselling may be used by a psychologist or psychiatrist trained in the techniques from this school of thought in order to address a client’s personal psychological difficulties. Such techniques, however, fall outside the scope of the work undertaken by an educational counsellor/advisor.

A second major strand of counselling practice that McLeod (1993) identifies is the cognitive-behavioural approach, which has developed from early work in behaviour by Watson (1919) at the beginning of the 20th century to incorporate later influential work on cognition by researchers such as Beck (1976). The focus of this approach is to replace negative beliefs that may result in self-defeating behaviour with positive beliefs that lead to self-acceptance and consequently to seeking constructive ways to address problems. It is possible that encouraging positive changes of attitude in relation to study could form a useful tool for educational counselling, but directly seeking to change behaviour in a therapeutic counsellor-client relationship would fall outside the remit of this role.

The third approach described by McLeod (1993) stems from the influential work of Carl Rogers in the 1950s in introducing the idea of a humanistic client-centred (person-centred), non-directive approach to personal counselling (Rogers 1961). Counselling in this sense is described as relationship therapy. Briefly, here the emphasis is on the counsellor providing a source of reflection and encouragement, with the aim of enabling clients to find their own solutions to their problems. It also includes the concept of constructive personality change and personal growth. McLeod describes a ‘core conditions’ model introduced by Rogers
and developed by later practitioners in this field to define this relationship that includes elements of empathy, congruence and acceptance (McLeod 1993, pp 63-64). In this sense empathy is deemed to include an empathic understanding of the client’s internal frame of reference by the therapist. The term ‘congruence’ concerns the idea of ‘self concept’, which is defined as those attributes or areas of experiencing about which the person can say ‘I am …’ (e.g. happy, angry, etc.). Congruence occurs when the feelings of the person and the resulting words and actions of that person coincide; incongruence occurs when they do not. The third term used here, acceptance, is defined as unconditional positive regard for the client on the part of the counsellor.

All of the above concepts described by McLeod relate to Roger’s early work in the field of humanistic counselling in general. In later work, Rogers (1983) advocates the adaptation of the elements of reflection, encouragement, empathy and acceptance drawn from this person-centred approach into the relationship between teachers and students in an educational context. The influence of this approach may be discerned in the developmental counselling approach advocated by a number of researchers in relation to educational guidance. This will be discussed in Section 2.4.3.

In all of the three major approaches to counselling practice described here, the counsellor-client relationship is one in which a client chooses to consult a professional for help in understanding and/or changing some aspect of his/her life or behaviour which is deeply troubling him/her. In the second half of the twentieth century a variety of practices have emerged based on these approaches, in some cases integrating ideas from more than one school of thought. Quilliam and Grove Stephensen (1991) identify no less than twenty-five counselling approaches in current use.
A particularly influential example of an integrative approach is the Transactional Analysis model, introduced by Berne (1964) and built on by Harris (1973), which provides a framework by which to analyse conversational interaction between people. This model proposes that when such interactions take place problems can arise when so called ‘crossed transactions’ occur and one person’s response triggers a negative reaction in a different part of the other person’s personality. Quilliam and Grove-Stephensen (1991) define the goal of transactional analysis as being a situation where all parts of us respond to others at an equally respectful level (I’m OK, You’re OK, to use Harris’s shorthand terminology). Distress occurs when either one person puts him/herself down by elevating another (You’re OK, I’m not OK) or disapproves of others by exaggerated feelings of being in the right (I’m OK, You’re not OK). An understanding of the concepts underlying this model can provide a useful frame of reference to facilitate empathic communication.

One further variation of counselling practice briefly described by Quilliam and Grove-Stephensen (1990) is co-counselling. They define this method as a Rogerian listening and accepting approach that is reciprocal in nature, that is to say, in which two participants take it in turns to be client and counsellor. It differs from other approaches where clients consult a professional counsellor in that it is a method employed by volunteers and involves a more equal peer relationship.

To summarise, in essence each of the major strands of psychological counselling identified - psychodynamic, cognitive-behavioural and humanistic - involves an essential element of therapy in the relationship between client and counsellor. From these strands numerous variations of practice have evolved, some of which integrate elements from the different approaches described. Elements drawn from the Rogerian humanistic approach inform and influence the techniques used in educational counselling; where it differs is that the role of an educational counsellor/advisor is confined to advising students in relation to the study
process. It does not include an overtly therapeutic element. Tait (1998), citing Open University guidelines (Open University 1988) reports that counselling staff in this institution have been strongly directed to work primarily within the framework of study and not outside their skill area as experienced teachers. In the case of personal difficulties they have been directed to suggest referral to specialist agencies. This suggests that guidance rather than counselling might be a more appropriate term in this context.

In the following section the use of the terms ‘educational counselling’ and ‘educational guidance’ as they are understood in the context of distance learning will be explored further.

2.4.3 Educational guidance and counselling

There is considerable academic debate surrounding the nature of the professional responsibilities involved in the role of an educational counsellor/advisor in tertiary education. Broadbridge (1996) identifies two broad schools of thought. In the first of these the role is traditionally regarded as being that of an administrator. This type of help may be provided in a number of different ways. For example, some establishments may consider that giving educational advice is a peripheral part of the administrative function of academics. In other cases a central advisory service staffed by trained advisors may be available. Broadbridge argues that in such a consultancy-type scenario the advisor provides single-directional information and prescriptive advice to the student, resulting in a relationship that is controlled to a large extent by the advisor.

The second school of thought is known as developmental counselling/advising. Broadbridge defines this mode of practice as a two way process between advisor and student in which both parties share responsibility and take an active part.
An exploration of the literature in this area suggests that Broadbridge’s view of traditional advising may be somewhat over-simplistic if considered in the context of a distance education environment compared with a traditional campus. The views of other researchers in this field are examined in the following section. This is followed by an exploration of the literature concerned with developmental counselling/advising. Finally two case studies of experimental counselling projects undertaken by Broadbridge (1996) and Rekkedal (1993) are discussed.

**Traditional educational counselling/advising in distance education**

Mishra (1995) highlights the fact that the role of a tutor/counsellor has not been universally defined in the area of distance education. It varies from institution to institution. Bailey and Alloway (1988) argue that *guidance* is a more encompassing term than *counselling* and therefore has a greater utility in encompassing all forms of help from the directive to the non-directive. This is an important point since not all students will seek/need high levels of guidance. In some cases straightforward information may be all that is desired. In relation to this issue, Simpson (1977) argues that counsellors may be divided into two major categories, these being *interventionist* (those who initiate contact with students) and *consultants* (who wait for students to contact them). Simpson writes in the context of the system operating in The Open University the late 1970s, which assumes access to a personally allocated counsellor rather than an advisory service. This begs the question of which of these options is more appropriate. Perhaps there may be a case for the same counsellor to operate in *interventionist* and *consultancy* modes at different times? For example, in *interventionist* mode, an advisor may send a welcoming message to a student at the outset of a course to establish cordial relations and to signal availability. Such an
approach could still leave the student free to choose to contact the advisor at a later date if he/she chooses to do so (consultancy mode).

An important question concerned with the appropriate relationship between counsellor and student is to what extent it is necessary to establish a relationship of empathy to facilitate good communication. The literature relating to this area of interest is considered in the following section.

**Empathic relationships and continuity of care**

Holmberg (1991) considers a relationship of empathy between those representing an institution and students to be important. He proposes that theoretically this type of communication may be developed independently of face-to-face contact with tutors. Features he identifies as necessary include: (i) the involvement of students in decision-making, (ii) lucid, conversation like presentations of learning matter, (iii) friendly interaction between students and staff of the institution and (iv) liberal administrative structures. Thorpe (1986) is another to stress the crucial importance of high quality personal contact between student and staff to promote a sense of belonging to a distance learning institution rather than alienation from it. This is a view echoed by other researchers, including Mishra (1995) and Curry, Baldwin and Sharpe (1998).

Tait (1996) introduces another interesting concept. He identifies two areas he considers to underlie education at a distance that are grounded in support services, these being conversation and community. He suggests that electronic conferencing may have a role to play in facilitating such support in a distance learning institution. This suggests that empathic communication may be possible via text-based methods, and is consistent with the views of researchers such as Jennison (1997) and Coombs (1993) discussed in Chapter
2.3. The value of text-based communication had earlier been highlighted by Simpson (1988), pre-dating the era of widespread use of computer conferencing. In this case Simpson cogently argues the advantages of *postal* correspondence as a medium for educational counselling and identifies a range of skills necessary to this method, including the following:

- a relaxed friendly style of response;
- being non-judgemental and non-authoritarian;
- being perceptive and responsive to feelings and emotions expressed in students letters;
- being well organised and responding to all enquiries;
- being open ended in response, allowing the student to think through the answers for him/herself.  

(Simpson 1988)

Potential advantages he proposes include the ability to draft and re-draft communications before sending, the fact that the response can be re-read and kept for reference and ease of communication of certain types of feeling (particularly negative feelings) in writing. This approach displays the influence of the work of Rogers (1983), who expresses his belief that the aim of education is the facilitation of learning and that the key to this rests with certain attitudinal qualities in the relationship between facilitator and learner. This includes sensitive and empathic understanding of the student’s reactions, which, he argues, permit personal growth in the student.

This type of high-quality personal contact would appear to demand continuity of care from an individual advisor, and there are examples from the literature to suggest that this is considered desirable. For example, Simpson (1977) reports that counsellors from both the *interventionist* and *consultancy* schools of thought consider continuity and knowing the student as essential to good counselling. Daniel and Marquis (1979) comment that the need for continuity is a refrain that runs through the literature on the subject. The title of their
paper, ‘Interaction and Independence: Getting the Mixture Right’, sums up in one phrase the challenge facing a distance learning institution in supporting its students.

One further major theme identified from the literature is the importance attached to student autonomy. This issue is connected with a developmental view of educational counselling and is discussed in the context of this approach in the following section.

**Developmental counselling, autonomy and the distance learner**

An important element to be taken into consideration as a guiding concept in distance education is the adult need for ‘personal control’. Both Garland (1995) and Woolfe Murgatroyd and Rhys (1987) stress the importance of student autonomy. Miskiman (1985) proposes a structured framework as the basis for a formal method of student decision-making in an educational context. In brief this involves initially identifying the objectives to be fulfilled, followed by a rigorous evaluation of the possible negative and positive consequences of each of these alternatives before taking a decision. Brown (1987) is another to discuss a similar type of framework. Whilst this method of decision-making permits rigorous analysis of options, and may therefore provide a sound basis on which to make long-term decisions, it may not be so suitable for the day-to-day difficulties encountered in the study process. In such cases students may need the opportunity to discuss the options available to them with a trained advisor.

In connection with this issue, Woolfe et al (1987) argue that there is an important difference between the terms **counselling** and **guidance**. They differ from Bailey and Alloway (1988) who prefer the term guidance (see discussion earlier in this section). Essentially the gist of the argument of the former researchers is that **guidance** is regarded as tutor (counsellor) directed and places the tutor firmly in the role of advisor, whilst
counselling involves the student in the decision-making process. They introduce the concepts of ‘advocacy’ and ‘brokering’ in the context of student decision-making, so that the counsellor works not only with the client but also with the system. They suggest that working in ‘counselling’ mode fosters a sense of personal responsibility for his/her own learning and decision-making on the part of the client.

This view of counselling is consistent with the developmental advising approach (discussed in Section 2.4.3) described by Broadbridge (1996) who comments that this mode of working requires a continuous and cumulative relationship between the advisor and student over time. In this context she cites the work of Frost (1991) as a major influence in defining the role of an advisor.

Frost (1991) argues that involved students are more likely to be academically and socially integrated into the college community. Here she writes in the context of a conventional university campus. However, her argument echoes the views of Holmberg (1991) and Thorpe (1986) relating to a distance-learning environment (described earlier). Frost takes the position that developmental advising suggests that students and advisors share responsibility for advising and highlights the desirability of a relationship of rapport between counsellor and students. There is resonance here with the views of Woolfe (1987) and with the integrated approach proposed by Newell and Walker (1991) in relation to students with special needs (see Chapter 2.2.4). In the specific case of students with disabilities, Frost presents a list of characteristics she considers important for advisors to understand and of advising techniques considered appropriate, as set out in Figure 2-1.
Figure 2-1
Advising students with disabilities

<table>
<thead>
<tr>
<th>Characteristics important to advisors</th>
<th>Advising Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing participation in college</td>
<td>Understanding students’ abilities and the barriers they face</td>
</tr>
<tr>
<td>One or more major life activities limited</td>
<td>Display positive attitudes about the integration of students into the college community</td>
</tr>
<tr>
<td>Prefer to see themselves as “able” rather than disabled</td>
<td>Encourage full participation in college</td>
</tr>
<tr>
<td>Expressed need for removal of barriers to full participation</td>
<td>Recommend support services when needed</td>
</tr>
<tr>
<td>Need support from peers and others</td>
<td>Act as an advocate for special and campus resources</td>
</tr>
</tbody>
</table>

(Frost 1991, pp 24-25)

Again the elements of this approach demonstrate parallels with the approach described by Newell and Walker (1991) (see Chapter 2.2.4). It is also echoed by Paist (1995) who describes a student-centred advocacy approach for the support of those with disabilities at the University of Wisconsin Extension.

Bailey, Brown and Kelly (1996) are among those who advocate a developmental view of advising in the context of the distance-learning environment, in their case that of the Open University. They describe this view as designed to encourage the development of the whole person. This approach is defined as including the seven activities shown in Figure 2-2.
These activities described by Bailey, Brown and Kelly reflect the seven activities of educational counselling defined as a standard by the Unit for the Development of Adult Continuing Education (UDACE 1986).

It appears from the descriptions of the activities included in the type of developmental approach described by Frost that this method of providing counselling/advice requires a much greater time commitment on the part of the advisor than does a traditional approach. This leads to the conclusion that it may not be practical to provide this enriched level of service for all students in a large-scale distance-learning institution. However, it may be particularly appropriate to support the studies of those with a variety of special needs, not exclusively those with disabilities.

So far this section has explored the literature in relation to definitions of educational counselling/advising in theoretical terms. Few case studies appear to have been undertaken in the field. However, two small-scale studies were identified and the findings of these are discussed in the following sections.
An undergraduate study to investigate student preferences for approaches to educational advising on a conventional university campus

Broadbridge (1996) reports on a study undertaken at an anonymous higher education establishment in the UK. The study involved interviews with final year undergraduates to explore the approach they expected or desired of advisors of studies. She concludes that this group of students favoured a developmental approach rather than a traditional approach to academic advising. A number of factors are highlighted as important. Firstly, the participants regarded the establishment of this type of relationship as crucial at the outset. Secondly, they wished the relationship to be continuous and cumulative, to develop as they matured and settled into university life. Thirdly, the relationship should be primarily academic, centred on discussion of their study needs rather than personal. Fourthly, the students wished their role as participants in the advisory relationship to be formally recognised. This last finding is particularly interesting since it illustrates the importance attached by students to personal autonomy. In this context Broadbridge suggests that the institution should provide students with a handbook to outline responsibilities, as it does for advisors. This example is drawn from a conventional university setting rather than from distance education. Nevertheless there are similarities to be noted which could be of value in the latter case.

NKI, Norway – a distance-learning institution

The second example is drawn from the NKI in Norway. Rekkedal (1993) reports on a small-scale study in a distance education environment designed to explore the effects of allocating students to a personal tutor/counsellor for study support when compared with a control group. The difference between the groups was that in the case of the experimental sample one personal tutor integrated the functions of administrative, counselling and training functions that normally were divided between different people, departments and
specialists. Two major findings emerge. Firstly, at the end of the project (after one year) a higher rate of course completion and greater activity in their studies was observed in the experimental group than in the control group. Secondly this group expressed more positive attitudes towards the general quality of the assistance and support from the institution. These positive findings suggest that access to a personal advisor may be beneficial. Both this study and that of Broadbridge (1996), described in the previous section, raise important points and suggest there is a need for further research in this area of interest.

2.4.4 Summary of literature relating to educational counselling

In summary, an exploration of the literature has established that there are differences between the role of an educational counsellor and that of a therapeutic practitioner consulted by individual clients for in depth analysis of personal problems. In the case of the former the broad purpose is only to provide advice and guidance related to the study process. A developmental view of giving educational advice which aims to develop the learner as a whole person has been identified as potentially beneficial. This is related to Rogerian counselling techniques. The literature highlights a number of issues. These are: (i) the need to respect student autonomy; (ii) the desirability of involving the student in the decision-making process through interactive discussion; (iii) the establishment of rapport between counsellor and student; and (iv) the desirability of continuity in an educational counselling relationship. An approach which aims to involve the student in the decision-making process may be particularly appropriate in the case of students with disabilities. It could provide a way to maximise autonomy, identified as an important consideration for those with disabilities from the literature examined in Section 2.2.

The potential value of text-based communication as a medium for counselling/advice has also been identified and the possible advantages of adapting this method to the medium of
CMC highlighted. Such an approach might hold potential benefits for students with special needs.

The following section draws together the issues identified as important from the literature in all three areas of interest explored.

2.5 Reflection

Issues arising from an appraisal of the literature have implications relating to the support of students with disabilities. Firstly, an examination of the Medical and Social models (Finkelstein 1981a; Oliver 1983; Finkelstein 1990) suggests that neither is fully able to take into account the difficulties and barriers faced by those suffering from long-term health problems (as opposed to conditions that are stable from the outset - or have stabilised). There are a number of medical conditions that can fluctuate in symptoms and severity over time. Examples include Multiple Sclerosis, Myalgic Encephalomyelitis, Epilepsy, Arthritis and Diabetes. There is also a wide range of less commonly occurring conditions falling into this category. This suggests that further research is needed to explore the nature of the barriers faced by distance learners suffering from this type of condition.

Secondly, a recurring theme throughout the literature is the emerging demand from disabled people over recent years for support designed to remove barriers to participation in society and maximise their autonomy. With particular reference to the field of education, an exploration of the literature suggests that the most widespread practice for student support is based on the Medical model. In many institutions decision-making on special needs remains firmly in the hands of professionals. One possible way to place greater control in the hands of the student is that suggested by Newell and Walker (1991).
Their proposed approach would facilitate student control when negotiating appropriate support with the institution concerned by using the services of a Disability Liaison Officer. This scenario has similarities with the developmental approach to educational advising advocated by Frost (1991) and Broadbridge (1996), which displays the influence of a person-centred Rogerian counselling approach (Rogers 1983). The various types of service described by Newell and Walker (1991), Frost (1991) and Broadbridge (1996) are designed to operate in a traditional campus environment. Reflection suggested that it might be feasible to adapt such provision for use in a distance-learning environment via CMC.

Simpson’s (1988) outline of the advantages of text-based communication by post as a means of contact between an educational counsellor/advisor is of interest when considering the possibility of providing a CMC environment to support the studies of students with long-term health problems (see Section 2.4.3). It might be that using e-mail could provide a way to build on the identified advantages of interactive communication via the written word by addressing the disadvantage of slowness of response experienced when using the traditional postal route. CMC has the potential to provide a fast and convenient mode of communication.

The literature in the field of CMC reveals the way in which this medium has rapidly opened up new opportunities to support study in recent years. Both formally structured course-based computer conference environments (see Feenberg 1989; Mason 1995; Wilson and Whitelock 1996) and more informal social conferences (see Jennison 1997) may hold potential benefits for the distance learner. In the particular case of those with disabilities, one suggested advantage of the use of text-based CMC is the possibility of the equalisation of communication with able-bodied students (Bowers 1996; Coombs 1989; Rheingold 1993).
Rekkedal (1992) also notes the potential of the medium for peer sharing (informal co-operation and sharing of experiences) for distance learners. In connection with this issue, the findings of Rheingold (1993) and Preece (1998) raise interesting possibilities that might be appropriate for the support of students with disabilities. These researchers note the value gained from empathic peer sharing by those facing similar life situations in on-line Internet communities. Whilst not directly applicable, there are also some parallels to be found with the concept of co-counselling described by Quilliam and Grove Stephenson (1991). There are elements of reciprocity in the opportunities for mutual support within an on-line peer community that might hold advantages for students who experience similar barriers in relation to their studies. In this context there are also parallels with Franek’s (1996) observations of the positive benefits arising from the provision of a private area for peer sharing controlled by the students (in this case visually impaired students) in a conventional campus setting (see Section 2.2.4). He describes how this provided a quiet area to compensate for the stresses of working in a campus designed for the able-bodied and was used both for study and recreation by this group. In taking control of their space, this group of students were asserting their autonomy and their desire to be included in the life of the university on their own terms.

Reflection on the possibilities suggested by these findings led to a consideration of what might be an appropriate type of CMC structure to adopt as a suitable environment to support the studies of students with long-term health problems. Might it be a strongly structured and moderated environment such as described by Feenberg (1989)? Or might a more informal environment be more valuable in facilitating peer sharing? Perhaps a combination of these elements might be better suited? The importance attached to autonomy for disabled people, discussed earlier, suggested that a structure designed to
maximise student control might be most beneficial. This issue therefore deserved more investigation.

As well as potential advantages for using CMC, an appraisal of the literature also identified possible disadvantages. Of these, perhaps the most important is that raised by Bowers (1996). She raises the possibility that cost (including both capital and running costs) may pose a significant barrier to use of the medium for those with disabilities. One way to address this could be the use of an off-line reader facility, which minimises connection charges to the telephone network and consequently reduces running costs. A positive practical conclusion of Wilson and Whitelock’s (1998a) study is that the use of an off-line reader facility is desirable for distance learners communicating in a ‘Virtual Campus’ environment.

These findings drawn from the literature informed the design of the studies undertaken for this thesis. The methodology adopted was influenced by a number of aspects of an *Emancipatory* research model (see Section 2.2.3) and is described below in Chapter 3.
Chapter 3: Methodology

3.1 Introduction

The work undertaken for this thesis took the form of a series of investigations designed to explore the study experience of distance learners with long-term health problems in higher education. Anecdotal evidence gleaned from a small number of students with disabilities encountered in the early 1990s suggested that there might be areas of difficulty relating to their special needs that were not well understood. An appraisal of the literature relating to models of disability and the experience of people with disabilities in education (undertaken to follow up this lead) suggested that an understanding of the experience of those suffering from serious medical conditions that fluctuate in severity (e.g. Multiple Sclerosis; Myalgic Encephalomyelitis; Arthritis) merited further investigation. The main research question addressed was therefore:

• “What are the barriers to effective study faced by undergraduate distance learners with long-term health problems?”

This led in due course to the second major question, which was:

• “How can the identified barriers be addressed?”

One finding to emerge from the literature suggested that students with disabilities attach a high level of importance to the maintenance of personal control over decision-making in relation to their studies (see Newell and Walker 1991; Coombs 1989, 1993; Frost 1991). An exploration of the literature in the field of CMC in the context of distance education suggested that this medium might provide a suitable route for communication with an
institution for such students that had the potential to support special needs in a variety of ways (Coombs 1989; Lauzon 1991; Burgstahler 1993; Rheingold 1993; Bowers 1996).

In the light of the literature relating to models of disability it was decided that a broadly emancipatory approach would be best suited to conducting research into the experience of distance learners with long-term health problems, with the aim of maximising participant autonomy (see Section 3.3). The approach taken was influenced by a number of aspects of an Emancipatory research model and in particular by Morris’s (1992) definition as an approach that seeks to further the interests of ‘the researched’ (see Chapter 2.2.3). In this context there were a number of different types of data that could be useful in providing information that would enable the formulation of answers to the research questions. In the case of the first question this concerned data that would give a broad picture of the student’s experience of study and any areas of difficulty encountered. In the case of the second question it included the following: (i) data from an experimental group showing usage of the various facilities available on a ‘Virtual Campus’; (ii) data concerning students’ experiences of using CMC in an educational counselling context; (iii) data relating to an on-line counsellor’s experience of participation; (iv) data concerned with operational practicalities; and (v) outcomes concerned with the effects of the measures provided on the experience of participation. In Section 3.2 the advantages and disadvantages of a number of possible options for these types of data collection are considered in the context of the requirements identified above. These include both quantitative and qualitative methods.

### 3.2 An exploration of some possible methods of data collection

Possible options for data collection that could illuminate the experience of study of undergraduate distance learners with long-term health problems are considered in Section
3.2.1. This relates to the first research question. An important aim was to identify any barriers to effective study that might be encountered, using research instruments suitable within an *Emancipatory* research approach (see Section 3.3 and 3.4). In Section 3.2.2 methods potentially suitable for the collection of data relating to the second research question are explored. These include a number of research instruments that could be useful for exploring the experience of participants in an experimental CMC study designed to provide access to the services of an educational counsellor on-line in the environment of a ‘Virtual Campus’.

**3.2.1 Addressing the first research question: options for the collection of data that could illuminate the broad picture of the student experience of study**

Two methods of data collection potentially suitable for this purpose are questionnaires and interviews. Each of these encompasses a range of different formats with particular advantages and disadvantages, and these are discussed below.

**Questionnaires**

There are a number of advantages and disadvantages associated with this method of data collection and these are well documented (see Wilson 1993; Mason 1995b and Sapsford 1999). In a situation where an overview of the subject under investigation is needed postal questionnaires can provide a convenient method to gather data from a large sample before proceeding to explore any interesting findings in greater depth. Use of this method presents a cheap and easy way to reach a large number of potential respondents thus making effective use of a researcher’s time (Wilson 1993).
One important advantage of structured questionnaires in general is that the questions asked are standardised. This ensures that: (i) all those canvassed are consistently asked the same questions and (ii) data is collected in a form that facilitates fast and easy analysis of a large body of data in a variety of different ways (see Sapsford 1999). In the case of self-administered questionnaires, another advantage is that completion of questionnaires can be undertaken in the respondents’ own time. This permits time for reflection before giving answers and for the respondent to choose the best/most convenient time for completion. Disadvantages cited by both Wilson (1993) and Sapsford (1999) include the fact that the researcher has no control over the conditions in which the data is elicited. That is to say, there is no one to explain to the respondent what is required at the time of questionnaire completion as is the case with those administered by an interviewer. Additionally, if only closed ended questions are included there may be situations where a respondent needs to give a different answer or to explain his/her response. One way to address this problem is to use a mixture of closed and open-ended questions, allowing white space for respondents to enlarge upon or explain their answers in their own words (Fowler, 1993; Mason, 1991). This permits both quantitative and qualitative data to be collected.

Hall (1997) suggests ways in which the medium of CMC may be used as a route for the collection of data. These include electronically handled survey forms, which may be: (i) downloaded from a server, (ii) sent out to individuals as e-mail attachments, or (iii) sent out by post on a disc. Such questionnaires are usually highly structured but may sometimes use open-ended questions (for example, see Wegerif 1995). They are not however interactive in nature. There are a number of possible advantages and disadvantages associated with this method. Advantages include: (i) the reduction in cost compared with paper based surveys and (ii) the availability of the data in a form which can be directly converted for data analysis. Disadvantages identified include: (i) possible sample bias as a result of attracting respondents who like using technology; (ii) possible
concern about being monitored and (iii) possible concern about lack of anonymity on the part of the target population.

In recent years interest has developed in the use of the World Wide Web as a means to distribute questionnaires electronically. Herrman, Fox and Boyd (1999) identify one major difference between postal and e-mail surveys and those made available on a web page. In the case of the former these appear in an individual’s mailbox (real or electronic) whereas in web based surveys the target population must be actively encouraged to go to the website to complete the survey on-line. A further disadvantage highlighted by these researchers is the insecurity and unreliability of a survey administered in this way. Since the questionnaire is not delivered to an individual there is no guarantee of the authenticity of the respondent. This is a problem also identified by Smith (1997). She also identifies a further difficulty, which is that there is no reliable way of determining response rates using this method.

This section has discussed a variety of possible routes for the administration of questionnaires and the advantages and disadvantages associated with these. The following section considers another method of data collection, the personal interview.

**Interviews**

There are a variety of interview formats that can provide possible avenues for the collection of data suitable for exploring the experience of participants in an empirical study. Wilson (1996) identifies a number of types appropriate to different circumstances. At one end of the spectrum there is the highly structured interview format (most usually used in market research) in which a set of closed questions is administered by an interviewer. At the other end is the form of personal interview which resembles a normal
conversation, but in which the interviewer nevertheless exercises a degree of control, steering discussion in a direction that will illuminate issues he/she wishes to probe further. An advantage of the former compared with self-administered questionnaires is that the researcher can be sure that the response is that of the interviewee and not influenced by discussion with others. However, one disadvantage shared with closed ended questionnaires is that it does not allow for non-standard answers to be made. (Wilson 1996).

In the case of less structured interviews, one advantage of using open-ended questions is the opportunity that this provides for the interviewer to probe possibly unexpected points of interest that emerge during the course of the interview. It is received wisdom that face-to-face contact also promotes rapport since visual cues can be read from body language. (Sapsford 1999). A major disadvantage of this type of interview is that it is time consuming. In a distance-learning environment it may involve travelling long distances for either interviewer or interviewee. A great deal of time is needed for transcription and the painstaking type of analysis of content required, involving reflection on the data and collating and codifying it into categories (Swift 1996). There may also be substantial costs associated with travel and accommodation expenses.

Telephone interviews provide one way to address these last problems when interviewing a sample widely distributed geographically. This is a route often used by market researchers to conduct highly structured surveys with closed ended questions. Interviews may be set up to take place at a mutually convenient time. However, the lack of visual cues means that it is more impersonal than face-to-face contact (Wilson 1996).

Young, Persichitte and Tharp (1998) report on a small experimental trial in which the use of e-mail for interactive interviews was tested for feasibility. Based on the findings of this
study, Young concludes that it was necessary for both interviewer and interviewee to feel at ease with the medium prior to using it for this purpose for it to be an effective method of data collection. In that case it was not used for interviews in a real learning situation.

As with all data collection methods, there are potential advantages and disadvantages to be considered if contemplating use of e-mail for this purpose. Communication via this route can provide a way to address the problem associated with travelling to undertake interviews with participants living at a distance. Asynchronous communication permits time to be taken for reflection and for responses to be made at the most convenient time for the participants. A further major advantage for a researcher is that the need for later transcription will be minimised, in comparison with the time consuming chore associated with verbal interviews. The written text will already exist in the form of e-mail messages. There is also no danger of words being inaudible with the possible result of incomplete data being recorded. However the method will inevitably involve an extended time commitment for both parties in the process. It thus demands that the researcher should be skilled in the use of CMC as a medium of communication in order to generate sufficient interest in the discussion on the part of the interviewee to motivate him/her to complete the whole interview.

Summary

The use of questionnaires as a means of data collection can provide a cheap and easy way to survey a large sample in a standardised way that facilitates analysis of a large amount of data. Use of both closed and open-ended questions within a questionnaire provides one way to address the disadvantage of lack of flexibility if only closed ended questions are used. Possible routes for delivery of self-administered questionnaires include: (i) postal service (ii) e-mail (iii) web based surveys. Another method of questionnaire
administration is by face-to-face interview. This is the type most often used in market research.

There are a variety of options available for conducting personal interviews. These range from those using a highly structured format using closed ended questions to less structured formats based on open-ended topics for discussion that are nevertheless steered by the interviewer. Possible modes of communication identified include: (i) oral communication in a face-to-face situation; (ii) telephone discussion; and (iii) text-based discussion via e-mail.

The choice of methods selected from these options as suitable to illuminate the broad picture of the student experience of study for the target population is described in Section 3.4 in the context of the exploratory framework adopted, taking a broadly Emancipatory research approach (see Section 3.3). The following section considers a number of methods of data collection suitable to explore the second research question.

3.2.2 How can the identified barriers be addressed? Methods of data collection potentially useful to illuminate the experience of an experimental group having contact with support services in a ‘Virtual Campus’ environment

The various kinds of questionnaires and interviews discussed in the previous section also present options for collecting data to investigate the effects of experimental provision of facilities in an environment where participants are actively studying. In addition, there are a number of further options for consideration that could possibly be used in the type of ‘Virtual Campus’ environment in which it was planned to conduct the experimental Intervention Studies. These include analysis of the content of computer conferences, obtaining prior and post-participation statements from participants, and the logging of
operational data. The advantages and disadvantages of these methods are discussed below, beginning with analysis of the content of computer conferences.

**Analysis of the content of computer conferences**

Mason (1991) highlights the use of content analysis as one useful method for the evaluation of conference activities, in the context of research in a computer conferencing environment. (Other methods cited include survey questionnaires, interviews, empirical experimentation, participant observations and case studies). One example of message analysis is that described by Preece (1998) in relation to research into empathic on-line communities. This technique involves breaking down the content of messages posted in computer conferences into categories (assigned by a researcher) in order to analyse and gain an understanding of the types of communication occurring. A particular advantage of this type of data collection is that the source material already exists. No preparation of questionnaires or interview outline is necessary. However, a number of researchers have raised ethical concerns which provide food for thought. King (1996) poses some key questions in relation to the use of messages posted in Internet Listserv communities as research data. These include whether it is important or not that contributors to computer conferences have prior knowledge that their messages may be used in this way. If they are not made aware in advance that this may be the case, might there be objections - for example on the grounds of invasion of privacy? On the other hand, if participants know in advance that postings might be used for analysis of content, might this have an effect on what they say, possibly either inhibiting comment or promoting exhibitionism? Cavanagh (1999) is another researcher to suggest that this is an urgent area for debate. These points indicate that caution is needed when considering use of the analysis of computer conference messages.
Prior and post participation statements by participants

Another possible method of obtaining information to illuminate participant experience in an experimental study is to ask for a statement of individuals’ prior expectations at the outset and a post-participation statement about their experience after completion of the experimental period. Qualitative data gathered in this manner can provide a way to ascertain pre-conceptions of ways in which the participant will expect to use the facilities provided and how that differs (if at all) from what actually happened in practice. The use of this method has the additional advantage of eliminating the possibility of hindsight bias and can thus provide a useful aid to assessing outcomes.

Logging of operational data

In a ‘live’ learning situation, the logging of operational data to gather information about the level of usage of facilities under investigation is one further potentially useful method of data collection suitable for use in a CMC study. It can provide a way to crosscheck student recollections of their use from an independent source.

Summary

In this section a range of possible options for the collection of data to investigate the experience of participants in an experimental CMC study have been discussed. These include questionnaires, personal interviews, analysis of the contents of computer conferences, obtaining prior and post participation statements from participants, and the logging of operational data.

The following section discusses reasons for the selection of a broadly Emancipatory research approach as the most appropriate way to administer data collection in the studies.
reported here, in the light of the literature reviewed. Section 3.4 then discusses the development of the framework on which the research was built, arising from this decision. In a ‘green field’ situation where little previous research had been carried out, this was designed to explore the broad picture, taking into account the experience of the students from a number of perspectives and over a period of time. The methods of data collection selected for this purpose are discussed. Finally Section 3.5 presents an overview of the design and implementation of the series of studies undertaken.

3.3 Administering data collection – the influence of an Emancipatory research approach

The final approach chosen for the administration of data collection was influenced by the concept of Emancipatory research, and in particular by Morris’s (1992) definition as ‘research intended to further the interest of the researched’ (see Chapter 2.2.3). This followed from two important findings drawn from an appraisal of the literature relating to Medical and Social models of disability (see Chapter 2.2). The first of these concerns the identified desire on the part of disabled people to maintain autonomy and control over decision-making on matters that intimately concern them (Hunt 1966; Finkelstein 1981a; Oliver 1983; McKnight 1981; Newell 1998). Secondly, findings from the literature suggest that people with disabilities perceive their needs in terms of barriers to be overcome rather than remedying a deficit (Finkelstein 1990, 1996; Roulstone 1994). It was therefore decided that it was necessary to take these factors into account in the design of the planned investigative studies.

A further important point arising from a perusal of the literature suggested that the experience of those suffering from serious long-term medical conditions (as compared to disabling conditions which are stable in nature - or have stabilised) was an area that was
not well understood and merited further investigation. In the case of the former category neither the Social nor Medical model appeared entirely adequate to fit the need. There might be circumstances when personal difficulties arising from a medical condition required to be addressed. However, literature relating to models of disability indicated that assessment of special needs by a professional was a facet of the Medical model that was considered particularly unacceptable by disabled people (see Chapter 2.2.1, Finkelstein 1981a; Oliver 1983; McKnight 1981). In the context of a distance learning environment, this suggested that an approach was desirable that could take into account both commonly encountered social barriers and individual medical needs, and at the same time respect student autonomy. These factors influenced the design of the studies reported here, which focus on an approach aimed to maximise participant autonomy in relation to their studies in a distance learning environment.

In the context of a distance-learning environment in further education (in this instance that of the Open University), it was decided that a research approach that was exploratory in nature would be best suited to investigate the student experience of the study process for those with long-term health problems. The aim was to facilitate a deeper understanding of any perceived barriers faced in relation to the study process and to explore ways in which any identified barriers might be addressed.

The severe health difficulties suffered by the target population demanded an approach of great care and sensitivity, requiring principles of professional ‘duty of care’ to be continuously borne in mind in the design and implementation of the studies. Certain ethical concerns were paramount. The researcher was committed to an approach that would respect participant autonomy. This involved keeping the students informed in advance of implementation of each stage of the studies of the ways in which they would be
asked to provide data and obtaining their prior consent before proceeding, in addition to the standard practice of a commitment to participant confidentiality and anonymity.

Those advocating an *Emanciptory* research approach (e.g. Oliver 1992) emphasise the importance of researchers in the field of disability studies being drawn from a similar background to the researched group. This is consistent with accepted practice in other fields. For example, Wilson (1993) describes research findings to support the view that the best practice to minimise interview bias is to match the ascribed characteristics of interviewers with respondents. It was therefore decided that the information that the researcher herself has long-term health problems should be disclosed in outline to potential participants. This information was included in covering letters issued with the questionnaire of the Exploratory Study (see Appendices A8 and A10).

The facilities offered to participants in the experimental CMC studies (Chapters 5 and 6) included access to the services of an educational counsellor on-line and access to a closed peer group conference, in addition to the Self Help Groups openly available to all students with access to the university ‘Virtual Campus’. The aim was to provide an environment that would maximise autonomy for the student in a distance-learning environment, taking into account both the set of common barriers to study suggested by the findings of the Exploratory Study (see Chapter 4) and the need for a convenient route for individual participants to make arrangements for personal accommodations for their special needs. In this thesis this has been termed the *Autonomy* approach. The studies were participatory in nature and the students taking part were aware of the fieldwork relationship. The relationship between the on-line educational counsellor and student was intended to be one of shared responsibility, based on the concept described by Newell and Walker (1991) in the context of a conventional campus environment (see Chapter 2.4.3). A further influence was the literature relating to the value of a developmental approach to

Control of discussion within the computer conference environment was devolved to the students as far as possible. However, control of the formulation of the questions asked during the project and dissemination of the results remained with the researcher. The work thus falls broadly into Morris (1992)’s definition of an *Emancipatory* research approach (see Chapter 2.2.3). Whether the work undertaken can be said to conform to later refinements in definitions of *Emancipatory* research described by Oliver (1997) is discussed in Chapter 8.6.

The following section discusses the development of the framework on which the research was built and the types of data collection methods selected to fit the purpose.

### 3.4 Adopting an exploratory framework

In a situation where little previous research has been undertaken, it was decided that the most suitable framework to adopt for investigation was one that was exploratory in nature. There was a need to design studies that would build up the broad picture, taking into account the experience of the students from a number of perspectives and over a period of time. This type of scenario requires a reflective approach to be taken by a researcher. In this instance the linear series of studies designed and undertaken was influenced by the concept of reflective practice described by Schon (1988) and the structure adopted was based on a reflective spiral of studies undertaken over time, first described by Kemmis and McTaggart (1982) in the context of Action Research methodology (McNiff 1988 p27). There was a need to allow time to elapse at the end of each stage to digest the findings and to reflect on the appropriate steps to be taken in the next phase of the research. However,
in Action Research it is the teaching professional him/herself who actively and continuously introduces and evaluates new measures into their practice. This is different from the scenario described here where the researcher’s role was that of a facilitator rather than a teaching professional.

A multi-faceted approach was taken to data collection using both quantitative and qualitative methods. This was designed to illuminate the issues from a number of different angles in order to build up a broad picture. Boulton and Hammersley (1996) suggest that often there is a need to use a combination of methods, choosing those most appropriate to the purpose. Mason (1995b) advocates use of a holistic approach to research in a CMC environment to illuminate the subject in question. Table 3.1 overleaf presents an outline of the methods of data collection selected. These are discussed below, in the context of an *Emancipatory* research approach.

In the first study of the series (undertaken in 1994) a postal survey was selected as the method for data collection, using a questionnaire that included both closed and open-ended questions. It was considered to be the most appropriate way to explore the experience of a large number of student volunteers. An important aim was to obtain a broad-brush picture of any perceived barriers to study encountered by the target population, in a situation where little previous research had been undertaken. Questions were designed to enable respondents to make a self-assessment of their ability to cope with various elements of the study process. This decision was influenced by a major tenet of an *Emancipatory* research approach, this being the necessity of gathering information in ways which facilitate and deepen understanding of participants’ own perceptions of their experience. The advantage of being able to take time over completion was a particular consideration in this case where the researched group suffered from serious health problems. Personal interviews can provide a valuable means of probing individual experience in depth. However they are
time consuming. Using this method would mean it would only be possible to survey a much smaller number of students. For this reason it was considered to be less suitable at this early stage of the research.

The experimental CMC studies which formed the second phase of the research in 1996 and 1997 were designed to investigate the second research question (and further new questions arising from this) concerned with the effects of access to the services of an educational counsellor on-line in the environment of a ‘Virtual Campus’ (see Table 3.1). In this phase of the work a number of different methods of data collection were selected. These are also set out in Table 3.1. In the case of both Intervention studies, a series of three questionnaires (again using a combination of both closed and open ended questions) was issued to participants over the course of each academic year in order to track developments in the students’ experience over the experimental period. Use of this method had the advantage that questions were standardised for each participant. The questionnaires were designed to focus on the student perspective, (again influenced by an Emancipatory research approach).
Table 3.1  
Methods of data collection adopted to address the research questions

<table>
<thead>
<tr>
<th>Date</th>
<th>Research question addressed</th>
<th>Study</th>
<th>Methods of data collection used</th>
</tr>
</thead>
</table>
| 1994-5 | “What are the barriers to effective study faced by undergraduate distance learners with long-term health problems?”  
                                                ↓  
                                                “How can the identified barriers be addressed?” | Exploratory Study            | Large scale survey by postal questionnaire (including closed and open ended questions)          |
| 1996-7 | “What are the perceived effects for students of access to the services of an educational counsellor by e-mail, available in the environment of a ‘Virtual Campus’?”  
                                                “What are the perceived effects on the study process of access to other facilities available on a ‘Virtual Campus’?” | Intervention Study 1 (Pilot study) | 3 student questionnaires as follows: -  
                                                Pre-participation questionnaire  
                                                Mid-session questionnaire  
                                                Post-participation questionnaire (including both closed and open ended questions) issued electronically where possible  
                                                Counsellor summary record sheets of contacts (held electronically)  
                                                Counsellor post-participation statement  
                                                Summary data from peer group conference |
| 1997-8 | Questions as in Intervention Study 1 plus new question below: -  
                                                “How might personal rapport between an educational counsellor and student be developed via the medium of CMC?” | Intervention Study 2 (Main Study) | 3 student questionnaires at similar intervals to pilot study, modified as a result of findings, including post-participation statement (issued electronically where possible)  
                                                Prior statement of expectations (For new sample)  
                                                Counsellor summary record sheets of contacts (as in pilot)  
                                                Counsellor pre-participation statement of expectations  
                                                Counsellor post-participation statement in the light of her experience  
                                                Summary data of messages posted in topics of peer group conference |
| 1999  | “What are the barriers to effective study faced by undergraduate distance learners with long-term health problems?”  
                                                “What conditions facilitate good communication with an educational counsellor?” | Personal interviews (part of the Main Study) | Face-to-face interviews  
                                                Interactive interviews by e-mail (epistolary interviews) |
Interviews were considered but were not selected at this stage of the research for a number of reasons. The experimental project was taking place in an environment where the students were actively studying in a distance-learning environment. This means that students are not easily available in one place as would be the case in a conventional campus environment. The participants all lived at considerable distances from each other and from the researcher. They all suffered from medical conditions that could result in incapacitating levels of fatigue (a finding from the Exploratory study). Face-to-face interviews at this point would have involved a great deal of travel and would have been very time consuming for both researcher and students. It was premised that lengthy and reflective interviews repeated several times during the academic year could impose an unacceptable extra drain on already depleted energy levels at a time when students needed to focus on the process of studying. In such circumstances questionnaires have the advantage that they can be completed in a participant’s own time, perhaps over a period of several days. This addresses the issue of fatigue and additionally facilitates respondents’ reflection on the questions asked.

It was considered appropriate to issue the questionnaires electronically where possible, as well as by hard postal copy, thus permitting a choice of completion method for the students. Completion using word processing could provide a convenient method of completion for those with handwriting difficulties. The methods of electronic data collection chosen were those suitable to an environment supported by computer conferencing software (CoSy4 in 1996 and FirstClass in 1997). Web based questionnaires were not used in the studies for this thesis. Additionally, pre and post participation statements were requested from both the students and counsellor in the main study. The reason for this was to ascertain preconceptions of expectations at the outset and to see how these compared with actual experience following completion. This would be helpful in assessing outcomes and the elimination of possible hindsight bias.
Personal interviews with two samples of participants, drawn from the main study and from a new set of volunteers, were selected as the most appropriate means to gather data in the final phase of the main study that took place after the completion of the experimental period. At this point use of this method provided a valuable way to probe interesting inferences from the earlier studies in greater depth. Both face-to-face and e-mail interviews (epistolary interviews) were selected as the preferred methods, and reasons for these choices are discussed in Section 3.5 (which presents an overview of the design of the Empirical Studies).

Two methods of data logging were selected as further useful methods of data collection in the Intervention Studies. Firstly, a template record sheet was designed so that the on-line counsellor could prepare a copy for each participant, to be held electronically. Use of this method would enable the counsellor to summarise contacts with each student, and to make these summary records available to the researcher. Secondly, the researcher kept summary information on the number of messages posted in each of the topics in the peer group conference (a facility provided in the two intervention studies) to monitor the levels of use of this facility.

Analysis of the content of computer conference messages was also considered. However it was decided that this would be an inappropriate action within an Emancipatory research approach. There were inherent dangers in a situation where there was a possibility that the researched group might perceive themselves to be regarded as no more than impersonal subjects to be studied for research purposes. The angry reaction of disabled people to the findings of Miller and Gwynne’s 1972 report on conditions in a Home for the Disabled provide a salutary illustration of possible pitfalls facing researchers working in an area of such sensitivity (see Chapter 2.2.1). It was premised that the use of conference
contributions for analysis might be regarded as intrusive and voyeuristic, since the peer
group conference area provided in the Intervention Studies was a private area for
discussion. There was a real possibility that use of this method might have inhibited
students in the discussions taking place in the conference environment. It could therefore
have biased any potential beneficial effects of communication. For this reason the decision
was taken to use only summary information of the numbers of types of messages posted in
each of the conference topics, a form of data logging.

This section has described the methods of data collection selected for use in the studies
undertaken for this thesis. In the following section the design of the studies is described in
more detail.

3.5 The design of the Empirical Studies

This section presents an overview of the rationale of each the studies undertaken,
beginning with the Exploratory Study.

3.5.1 The Exploratory Study

At the outset of the studies the first priority was to investigate what barriers to study might
be experienced by undergraduate distance learners suffering from a variety of serious
medical conditions of a long-term nature and to see if any common areas of difficulties
existed. For this purpose a large-scale postal survey was undertaken to explore the main
research question:

- “What are the barriers to effective study faced by undergraduate distance learners
  with long-term health problems?”
The study was designed to provide data from which to discern any patterns of difficulties in common across the whole sample. Secondly, it was structured so as to enable a comprehensive picture of the pattern of study and support received for each individual student to be obtained from the student perspective. Thirdly, analysis of the data by illness groupings would enable a picture to be built up of the needs of students falling into particular categories of disability. Additionally it would help to reveal any possible differences in problems/needs between different groups of illnesses. Fourthly, questions were incorporated to see what support/study aids were already being provided.

**Composition of the sample**

The student sample consisted of 281 volunteer respondents to a postal questionnaire. The participants were all Open University students (either undergraduates or recent graduates) suffering from a variety of long-term health problems. Potential volunteers were alerted to the study via four different channels. These included invitations posted in ‘Sesame’ (the Open University newspaper issued to all current students) and ‘Omega’ (the Newsletter for the Association of Open University graduates) between July and November 1994. In the latter case this was because there are students who continue to study for Honours after graduating with an ordinary degree. In other cases students may opt to study for a further degree in a different discipline. In addition the Office for Students with Disabilities of the university (OSD) gave assistance by issuing 350 letters of invitation to participate to those students shown in their database as suffering from Multiple Sclerosis and Myalgic Encephalomyelitis (see Appendix A8). Several of the thirteen Regional Centres also circulated copies of this letter to students with long-term health problems in their own areas. In both these cases questionnaires were included in the mailing. A covering letter from the university made clear to these students that it was entirely their own decision whether or not to respond (see Appendix A10). It was by no means a compulsory exercise.
The researcher had no knowledge of the identity of those approached by these routes. Completed questionnaires were returned directly to her to preserve participant anonymity. Including those issued blind in this way, approximately 600 questionnaires were issued in all.

**Methods of data collection**

The method of data collection adopted in this study was a postal questionnaire, arranged in three sections. A copy of the questionnaire is provided as Appendix A1. The first two sections were designed to measure:

(i) respondents’ own perceptions of how their illness affected their study in relation to the various elements of the study process. These included aspects of home study (work undertaken for continuous assessment); attendance at face-to-face tutorials; attendance at residential schools (Summer School); and examinations. It was decided that the ‘Gold Standard’ against which the participants would be asked to measure their level of coping with various elements of the study process would be their self assessment of their personal ability to cope when fit. This would provide a way to ensure an internally consistent ‘Gold Standard’ within each completed questionnaire. A scale of 1-100 (termed the ‘Coping Scale’) was chosen (where ‘100’ = the Gold Standard of the individual’s ability to cope when fit and ‘1’ = barely able to cope at all). The reason for this was to enable respondents to estimate their level of coping for each element in question as a percentage of their ability to cope when fit. It was premised that it would provide a user-friendly yardstick for the individual, against which to measure his/her personal experience. Questions relating to the respondent’s experience of methods of supplementary support available in case
of special need were also asked in this section. These questions made up Section 1 of the questionnaire;

(ii) levels of satisfaction with various forms of study support provided by the university. A similar scale was used, in this case termed the ‘Usefulness Scale’, where ‘100’ = excellent and ‘1’ = not useful at all. These questions made up Section 2 of the questionnaire.

The third section asked questions to ascertain: (a) whether or not the respondent had access to a computer and telephone line and (b) levels of potential interest in the possibility of (i) using CMC for access to the services of an educational counsellor, (ii) for access to study related and (iii) social Self Help Groups via the university data communications network (see Table 3-2).

In Sections 1 and 2, both closed and open-ended questions were used. In the case of the latter these took the form of invitations to qualify or elaborate on answers to the set of closed questions in each of the areas under investigation, if respondents so wished. White space was provided for this purpose. This would provide a way to supplement the quantitative data collected.

**Data analysis**

Data from the completed questionnaires was entered into a relational database for analysis. This was designed to enable different combinations of quantitative data to be considered quickly and conveniently. Each participant was allocated a coded reference number, a field common to both sections of the database (one containing personal details and the other the data from responses to the questions). This would enable the databases to be
interrogated using a variety of combinations of data whilst maintaining participant anonymity. The qualitative data from the open-ended questions involved a process of reflective analysis. Data was evaluated firstly by codification of categories, followed by collation of the data in these categories and counting the number of mentions. Details of the implementation and results of the study are described in Chapter 4.

The results of this phase of the research suggested that there were a number of barriers to study common to the majority of the sample. These included fatigue, manual dexterity, academic and social isolation, together with a need for better interactive communication with support agencies. These findings raised the second research question:

- “How can the identified barriers be addressed?”

Reflection on the potential benefits for those with disabilities of: (i) the use of CMC to support study and (ii) the value of a developmental approach to educational counselling/advice identified from the literature (see Chapter 2.3 and 2.4) suggested that the use of CMC as a route for access to the services of an educational counsellor might provide one possible way to address the identified barriers. Findings drawn from the survey data suggested a considerable level of potential interest in this form of support (see Chapter 4, Table 4-25) for the majority of the sample. An extract of the data from this table relating to the possibility of access to an educational counsellor via CMC is presented in Table 3-2 below.
Table 3-2
Level of interest in the possibility of experimental access to the services of an educational counsellor on-line: (extract from Table 4-25)

<table>
<thead>
<tr>
<th></th>
<th>Students with access to a computer (N = 189)</th>
<th>Students without access to a computer (N = 90)</th>
<th>Missing data (N = 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of respondents</td>
<td>% of N</td>
<td>Number of respondents</td>
</tr>
<tr>
<td>Yes, wish to be considered to take part</td>
<td>102</td>
<td>54.0</td>
<td>40</td>
</tr>
<tr>
<td>Unsure</td>
<td>57</td>
<td>30.2</td>
<td>29</td>
</tr>
<tr>
<td>Don’t wish to be considered</td>
<td>27</td>
<td>14.3</td>
<td>20</td>
</tr>
<tr>
<td>Missing data</td>
<td>3</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>189</td>
<td></td>
<td>90</td>
</tr>
</tbody>
</table>

The next stage of the research process undertaken was therefore to design a pilot study that would test the feasibility of providing such a service in the environment of a ‘Virtual Campus’. This is described in the following section.

3.5.2 Intervention Study 1

This study was designed to explore two new research questions. These were:

- “What are the perceived effects for distance learners with long-term health problems of access to the services of an educational counsellor by e-mail, in the environment of a ‘Virtual Campus’?”

- “What are the perceived effects on the study process of access to other facilities available on a ‘Virtual Campus’?”

The environment of this pilot CMC study was the computer conferencing system of The Open University in use at that time (1996). This was CoSy4/Wigwam software, a text-based system with an off-line reader capability. The study was conducted over the period
of an academic year. Funding provided by the Nuffield Foundation enabled the purchase of US Robotics 28,800 modems for connection to the network for participants in this study and in Intervention Study 2, which followed, and this is gratefully acknowledged.

In addition to e-mail contact with the counsellor, the participants were provided with access to a pre-existing peer group Self Help Conference accessible only by named participants (see Debenham 1996b). They were free to choose whether to contribute to this or to use other Self Help Groups openly available to all those students who were users of the university system. The researcher acted as a facilitator in the set up stages of the project and was available for consultation to participants in this role at any time during the course of the study.

The student sample (Intervention Study 1)

The sample was composed of six student volunteers (three male, three female). They were selected from the 102 respondents to the questionnaire of the Exploratory Study who had expressed a definite interest in access to the services of an educational counsellor via this route and who had existing access to a personal computer (see Table 3.2). Unfortunately none of those without computers (N = 40) who had also expressed a definite interest could be considered for participation at this stage since it did not prove possible to make loan computers available.

A pool of about forty students was identified who fulfilled certain necessary criteria, described below.

- All had already completed at least one course of study with the Open University and were taking courses at a higher level than Level 1 in the year of the
experimental project. The reason for this was to ensure that they all had a consistent level of study experience and were not novices in the methods to support study employed by the institution in which the project would be undertaken. They were drawn from across the spectrum of academic disciplines. It was pragmatically necessary for those invited to participate to have access to a personal computer. However, the criteria for selection did not include a requirement for participants to have taken/be intending to take courses in which the use of a computer was a necessary component.

- All had easy access to a telephone line into which a modem could be plugged. (94.3% of the respondents to the postal questionnaire of the Exploratory Study had access to a telephone line).

- All were drawn from the three regions of the university geographically closest to the researcher. Whilst this still covered a large catchment area and the geographic spread of the sample was quite wide, this took into account the possibility that there might be a need to provide help at the equipment set up stage and would minimise travel for staff if this became necessary. From the shortlist of forty, ten students were initially invited to take part on a randomly selected basis. A copy of the letter of invitation to participate is provided as Appendix B6. Of the ten students approached, four were in the event unable to participate for various reasons, though they would have liked to do so. There was no requirement for those short-listed to be sufferers from a particular medical condition, nor to be taking courses from any particular discipline. The final sample of six were complete novices in the use of computer conferencing; one only had some previous experience of using e-mail.
The Educational Counsellor (Intervention Study 1)

A volunteer Senior Counsellor (a member of Open University academic regional staff and an experienced user of CMC) was recruited to provide an on-line counselling service to the six volunteers by e-mail. Her remit was to provide guidance, advice and support on issues connected with the study process, including special needs and to liaise with other agencies within the university when required. Students retained their right to contact their existing regionally based advisors if they so wished. The on-line educational counsellor was asked to keep summary records of all contacts with students on electronically held record sheets for each participant (specially designed for this purpose) and to comment on her experience at the end of the period of the study (an academic year).

Methods of data collection (Intervention Study 1)

As set out in Table 3.1, a number of methods of data collection were used in this study and these included:

(i) student questionnaires issued at the beginning, mid session and end of the experimental period (an academic year). Both closed and open-ended questions were used. In this study a scale of 1-5 was chosen to assess perceived levels of usefulness and satisfaction with various aspects of the services provided. The rationale adopted in the Exploratory Study of using a scale of 1-100 to permit participants to make a percentage assessment against a gold standard of their own fitness did not apply in this case. A scale of 1-5 was chosen as more appropriate for the purpose. It was designed to provide a continuum on which to assess the participants’ perception of usefulness of the facilities in question, with a rating of
‘3’ or more being considered to be satisfactory and less than ‘3’ unsatisfactory. A detailed description of the questionnaires is presented in Chapter 5.3 and copies are provided as Appendices B1, B2 and B3;

(ii) electronically held record sheets, to be completed by the educational counsellor to log summaries of each contact with each participant. For reasons of counsellor-client confidentiality the researcher considered it would be unacceptable to ask for access to the full exchange of e-mail messages. The record sheets were therefore designed for the counsellor to provide summary data, giving information about the nature of the contact and any advice/assistance given. A copy of the pro-forma is provided as Appendix B4;

(iii) a statement requested from the educational counsellor at the end of year to reflect on her experience of participation;

(iv) the researcher’s low-key presence as a facilitator and occasional participant in the private peer group conference area, to which participants had access. This made it possible to observe at first hand the nature of the discussions taking place.

This combination of data collection methods was designed to enable a more complete picture to be built up of the student experience than if using a single method.

Data analysis (Intervention Study 1)

Quantitative data from the questionnaires was entered into cells of tables pre-prepared in a Word document. With a relatively small number of participants this was a convenient way to collate the information in an easily perusable form. The qualitative data from the
freeform comments was codified into categories and collated manually. The data from the
counsellor record sheets was analysed and summarised by the types of issue raised. The
results and findings of this study are reported in full in Chapter 5.

At the end of the period of the pilot study the university changed the computer
conferencing software used to support the ‘Virtual Campus’ environment from
CoSy4/Wigwam to SoftArc’s FirstClass, an icon based system requiring access to a
personal computer using Windows. This meant that of necessity the design of the main
study had to be adapted for implementation using this new system.

3.5.3 Intervention Study 2

The findings of the pilot study suggested that participants had experienced perceived
benefits from access to the Virtual Campus, both in relation to study support and social
interaction with fellow students and the on-line educational counsellor. Nevertheless three
of the six participants expressed reservations about relinquishing a personal relationship
established with their regional educational counsellor over time. Following a period of
reflection, the main study built on the findings to explore ways in which rapport between
the participants and an on-line counsellor might be developed in a way that maximised
student autonomy. This is an issue central to the new Autonomy approach adopted in the
work reported here. Hence an important new research question was raised:

• “How might personal rapport between an educational counsellor and student be
developed via the medium of CMC?”

A group element to educational counselling was introduced in the environment of a closed
peer group conference as an innovative measure designed to promote such a relationship in
the wider environment of the FirstClass ‘Virtual Campus’. The structure of the group
element of counselling support is presented in Figure 3.1 below. This figure illustrates the
dynamics of the new framework of the peer group conference area. It was designed to
facilitate both ‘one to many’ and ‘many to many’ interactive discussion, adding a group
dimension to the study and consequently the possibility of wider dissemination of
information. In her ‘room’ the counsellor was in charge. The students could choose when
to consult her there formally on any topics they might feel relevant to the whole group
within a confidential environment. She was encouraged by the researcher to participate
informally in the area of the student-led topics, which were moderated by a student (one of
the participants in Intervention Study 1). Within these topics she would be a guest of the
students.

Figure 3-1
Intervention Study 2:
Introducing an interactive group dimension to personal
educational counselling on-line - the dynamics of the structure
The conference area was structured in this way in order to provide: (i) a balance of control between the professional and students that would maximise student autonomy and (ii) a relaxed environment that would encourage the development of rapport between students and counsellor. The framework was devised to promote a situation where advice and information could readily be both sought and given (either by one-to-one e-mail or in the group).

Composition of the sample (Intervention Study 2)

The sample in this main study (N = 13) included the six students from Intervention Study 1 who were all willing to continue to participate. By this time all of these six had acquired access to a personal computer that would support Windows. A further seven students (four male, three female) were recruited to join the original six. A message of invitation to participate was sent to each of these students by e-mail. All those approached accepted the invitation to take part. The pro forma copy of this message was one of those irretrievably lost in the researcher’s hard disk crash in July 1997 (see also Chapter 6.4.4). For this reason it has not been possible to provide a copy in Appendix C. All the participants in the new sample had already completed first level undergraduate courses and were registered to take second or third level courses in 1997. They were all registered as having a disability with the Office for Students with Disabilities and had medical conditions that were long-term in nature. All but one had access to computers that would support Windows. The student who was using a computer that would not support this software began the year accessing the system using a command line interface. Within a few months he too had obtained access to a PC. This second group was selected from among those who had been users of the CoSy4/Wigwam computer conferencing system in 1996, including the closed peer group support conference. The new sample had not however had access to on-line counselling support during 1996.
The reason for selecting participants in this way was to ensure consistency, so far as possible (both in the level of background experience of the study process and in the use of CMC) for the whole sample of students during the period of the main study. The whole group had to set up and become familiar with use of the new FirstClass software from scratch. Those who had participated in Intervention Study 1 had started from a position of being novices in the use of computer conferencing. The additional sample began the new study into the effects of access to an educational counsellor on-line as experienced users of the medium, which might mean that they came to the study with different initial expectations. It would be possible for comparisons to be made in the experience of the two samples. With the addition of the new set of participants, the geographical distribution of the sample was more widespread across the UK than was the case in Intervention Study 1 (see the map provided in Chapter 6 Figure 6-2). Students were drawn from seven of the thirteen Open University regions.

The Educational Counsellor (Intervention Study 2)

The Educational Counsellor from the earlier study had other commitments that meant she was not available to participate in this study. Another member of staff, a Senior Counsellor based in one of the Regional Centres of the university, was therefore recruited to provide the on-line service. Unlike the counsellor in the earlier study, this member of staff came to the study without previous experience of using computer conferencing, though she had used e-mail for contact with colleagues. However, she had a particular interest in special needs provision and was very experienced in this field using traditional means of communication. Her remit was similar to that of the counsellor in Intervention Study 1, with the important addition of taking part in the group dimension of the study, as described earlier. She was provided with brief guidelines on the role envisaged for the
counsellor (see Appendix C7). However these were not rigid, allowing scope for individual style of interpretation. As the counsellor was new to the use of computer conferencing, it was necessary for her to obtain help in setting up the software from the Academic Computing Service of the university. The researcher was also able to provide some informal help.

Methods of data collection (Intervention Study 2)

In this study four methods of data collection were used. These included:

(i) student questionnaires (including both closed and open ended questions) issued at beginning, mid year and end of year (electronically where possible);

(ii) statements of prior and post participation expectations and how these were fulfilled, requested from both students and counsellor. At the end of the study the counsellor was provided with a framework of open-ended questions as an aid for reflection for this purpose;

(iii) summary record sheets held electronically by the counsellor (similar in design to those used in Intervention Study 1);

(iv) summary data relating the types of issues raised in messages posted in the peer group conference area.

The student questionnaires were structured in a similar way to those of the pilot study, but with questions modified in the light of the findings from that study. In particular questions were included which set out to probe student perceptions of their experience of on-line educational counselling, including the group dimension. The questionnaires were issued both in the form of hard copies by post and electronically as appended files in Word 6 for Windows ’95. The reason for this procedure was to allow each participant to choose which
method of completion was most convenient for him/herself. The option to choose electronic completion provided a way to address the barrier of difficulty with handwriting, for those for whom this presented a problem. A large, clear font was adopted and white space allowed on the form for the benefit of those with visual impairment. A detailed description of the questionnaires is given in Chapter 6.3.5. Copies are appended as Appendices C1, C2, C3, and C5.

The counsellor was asked for feedback in the form of a prior statement of her expectations at the outset of the experimental period and completion of a post participation statement, based around answers to a framework of open-ended questions at the close (see Appendix C5). The availability of a prior statement had the added advantage of eliminating the possibility of hindsight bias in recollections made at the end of the study. The necessity to set out her views in writing in this way provided a way to help the counsellor to clarify the issues involved in her own mind, and that this could facilitate a conscious appraisal of existing practice. Schon (1988) suggests that personal reflection on established professional practice can be of value in developing a more conscious level of understanding of particular specialised practice and that this can be helpful in new situations in which the practitioner may find him/herself.

... 'A practitioner’s reflection can serve as a corrective to over learning. Through reflection, he can surface and criticise the tacit understandings that have grown up around the repetitive experiences of a specialised practice and can make new sense of the situations of uncertainty or uniqueness which he may allow himself to experience'…

(Schon, 1988 pp74 - 75)

The summary record sheets held electronically by the counsellor were identical to those designed for the pilot study, since the type of information to be collected remained the same (see Appendix C4).
This combination of methods of data collection was designed to illuminate the student experience of use of the counsellor’s services and other facilities available on the ‘Virtual Campus’ from a number of different perspectives so as to provide triangulation of data. The implementation and results of the study are described in Chapter 6.

Finally, following a further period of reflection, a number of personal interviews were undertaken to complete the main study in order to explore inferences gleaned from the earlier studies in greater depth. The design of this phase of the research is described in the following section.

3.5.4 Personal Interviews

A total of 11 personal interviews were completed, including both face-to-face and epistolary interviews by e-mail (an experimental format introduced in this thesis) with a sample of students drawn from the main study and an additional new sample. These were based on a framework of open-ended questions designed to encourage discussion that focussed on following up interesting inferences from the earlier studies in more depth. These included issues arising from both the main study and, in the case of the new sample, a re-exploration of areas relating to the student experience of study drawn from the findings of the Exploratory Study.

In order to enhance understanding of the processes that facilitate good communication with an educational counsellor, there was a need to explore the experience of students more fully in relation to this issue, considering all modes of communication. These included face-to-face meetings and telephone contact as well as CMC. The research questions addressed in this final phase of the main study therefore focussed on the main question and a new question:
• “What are the barriers to effective study faced by undergraduate distance learners with long-term health problems?”

• “What conditions facilitate good communication with an educational counsellor?”

Composition of the sample (Personal Interviews)

The sample included both participants in Intervention Study 2 (N = 4) and a new sample of students (N = 7). The set of interviews was designed to cover a spectrum of computer usage. For this reason the new sample included students who: (i) did not have access to computers at all, (ii) had access to computers without any network connectivity, and (iii) had access to the openly available facilities on the ‘Virtual Campus’ (but not to the additional facilities provided in the experimental studies). All those selected fulfilled two criteria. Each had completed at least one undergraduate course of study with the university and had had access to the services of a regional Tutor Counsellor under the earlier system for educational counselling in the university. Some of those interviewed still had access to a Tutor Counsellor. Some had been changed to the new arrangements when moving house or because their counsellor had left the university. In each case a similar set of core questions was used. The sample was selected from a total of 303 student volunteers contacted by two routes. They were respondents to either:

(i) an invitation to volunteers to participate issued on behalf of the researcher by one of the Regional Groups of the university (comprising three of the thirteen regions) to approximately 800 students on their disability database. A copy of the letter issued is provided as Appendix D1 and a table giving a breakdown of the responses as Appendix D2;

or
an invitation to participate posted in the thirteen regional conferences of the FirstClass conferencing system. The intention in this case was to recruit a sample with access to the openly available facilities on the ‘Virtual Campus’, but who had not experienced access to the services of an on-line counsellor, nor to the peer group conference area. A copy of the message is provided as Appendix D3.

In the case of those in the first of these categories, in order to protect confidentiality the researcher had no knowledge of the identities of those approached and responses (in return envelopes coded with her initials and received by the Regional Group) were passed to her unopened. 290 students responded and expressed willingness to be interviewed. The response forms were firstly sorted into geographical areas and then into categories of usage within each area. Two shortlists (each comprising ten possible candidates) were drawn up from which to select four interviewees in total. All those short-listed lived within relatively easy travelling distance of the researcher by car. This was considered to be a necessary requirement because of the researcher’s own difficulty with travelling and need to rely on a helper for transport.

One list consisted of those who did not have access to a computer, the other of those who had access to a computer on a ‘stand alone basis’ without network connectivity. The Students from each shortlist were telephoned in random order to invite them to participate. The first two students who answered the telephone from each list were willing to be interviewed (four students in all).

In the case of the second category, interviewees were drawn from thirteen volunteers who responded to the call posted into the regional conferences on the ‘Virtual Campus’ and were in the mid stages of their studies (rather than near the end). The reason for this was
for consistency with the level of study experience of participants in the intervention stage of the main study.

Methods of data collection (Personal Interviews)

As discussed earlier, two different interview methods were employed. These were face-to-face interviews (N = 6) in the homes of students and epistolary interviews (N = 5) by asynchronous e-mail. In both cases these were based on the type of semi-structured conversational style of interview described by Wilson (1996) as an appropriate method where an in-depth exploration of a participant’s experience is required. In the case of e-mail interviews, this was adapted for text-based communication by the researcher. This experimental format was influenced by Simpson’s (1988) identification of the range of skills useful in postal communication, in that case between a counsellor and advisor (see Chapter 2.4.3), and in this instance applied to an interview situation. Simpson’s list includes adopting a relaxed, friendly style of response, being non-judgemental, being perceptive and open-ended in responses, and encouraging the students to think through the issues for themselves. Techniques used in the epistolary interviews that were based on this type of approach included: (i) making a précis of the student’s response to initial open-ended questions and feeding this back to him/her to check the researcher’s understanding of what had been said; (ii) making positive affirmations that the interviewee’s responses were of interest and valued; and (iii) use of the interviewee’s name at intervals during the course of the conversational exchange of messages. All of these techniques were designed to promote a relationship of rapport between interviewer and interviewee in order to facilitate open communication. A summary of the numbers interviewed by each method is presented in Table 3.3.
Table 3.3
Summary of interviews by different methods

<table>
<thead>
<tr>
<th>Sample drawn from Intervention Study 2 (N = 4)</th>
<th>No. of students interviewed face-to-face</th>
<th>No. of students interviewed on-line (epistolary) interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>New sample (N = 7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students using computers with network connectivity to ‘Virtual Campus’, but without access to peer group conference or on-line counsellor</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Students using computers on a ‘stand alone’ basis</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Students not having used computers to support study</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

At this stage of the research the use of a semi-structured format for face-to-face interviews presented an opportunity for relaxed conversational interaction so that interesting points arising from the earlier studies could be followed up and explored more deeply. For those of the new sample of students without access to a computer, or who had access to a computer but no network connectivity, this method was the preferred option. It was decided that the alternative option of telephone interview would not be so conducive to the rapid establishment of rapport necessary for in depth discussion where the interviewer and interviewee did not already know each other. The former method was also chosen to interview two of the students from Intervention Study 2 who lived within a reasonable travelling distance from the researcher so as to explore the issues arising from their answers to the earlier questionnaires in greater depth, using a different mode of communication than that used in the Intervention Studies.

The new method of epistolary interviews by e-mail was introduced as a way to permit students with network connectivity living at a considerable distance from the researcher to
be included in the sample. Use of this route would allow time to be taken for reflection on the part of both interviewer and interviewee and address the barrier of fatigue by allowing responses to be made in his/her own time. The sample included two of the participants in Intervention Study 2 and three new interviewees who were users of the openly available facilities on the ‘Virtual Campus’. Working asynchronously using an off-line reader facility for one to one e-mail would permit the students to prepare their messages at times when they were feeling freshest. This is an important consideration when working with people whose levels of fatigue and concentration can fluctuate markedly. Several threads of a ‘conversation’ could be carried on within the same message. The use of the ‘reply with quote’ option available in the FirstClass software provided an easy way to repeat those parts of the message to which the correspondent, either student or researcher, wished to reply and for responses to be inserted in appropriate places. This facility meant that it would not be necessary to re-type any part of the original message. The students were asked to log on once each day whenever possible to maintain the impetus of the dialogue. The researcher undertook to log on several times a day to minimise the time lag in her responses. Each interview took on average two weeks to complete, with two interviews underway at any one time.

**Design of the interviews**

Interview frameworks of open ended key questions were designed, including guidelines for follow up prompts, depending on response. These were designed to address experience of educational counselling by all available methods across the whole sample. For the students who had taken part in Intervention Study 2, questions were included to explore inferences drawn from that study related to the establishment of rapport via the medium of CMC. In the case of the new sample, additional questions centred around the experience of the various elements of the study process previously considered in the Exploratory Study. A copy of the frameworks is given in Appendix D5. In the *face-to-face* interviews the
conversations were audiotaped with the permission of each student, obtained beforehand. In the case of the on-line interviews, all questions were adapted for text-based communication. Each of the students was given a pseudonym and any references to anything else that might potentially lead to their identification (e.g. place names, course numbers) were taken out in the transcriptions. All the students gave their informed consent on this basis. Each student was provided with a copy of the transcript of his or her interview. No student asked for material to be paraphrased after reading the transcript (an option offered by the researcher).

Analysis of the data (Personal Interview Study)

A transcript of each of the interviews was prepared from the tapes of the face-to-face interviews. The epistolary interviews were edited into a dialogue format from the full exchange of e-mail messages. Colour coding was used to highlight various categories of issues discussed. From this initial coding the data was collated into tabular format and distilled into summaries relating to particular types of issue. The findings reported in Chapter 7 are based on this collated information and illustrated with quotations from interviews as appropriate.

Summary

This chapter has discussed the advantages and disadvantages of a number of different methods of data collection. Reasons for the selection of those chosen for use have been described in the light of the exploratory framework adopted as most appropriate to the design of studies undertaken in a ‘green field’ situation. The influence of an Emancipatory research model on the approach taken has been considered. An overview of the design of the linear series of studies has been presented. Fig 3.2 presents an illustration of the implementation of these studies. A detailed description of the implementation and findings of the studies follows in Chapters 4 – 7.
Exploratory study designed
→
Act
implement study (1994) -
questionnaire survey of volunteers
→
Reflection
evaluate results;
consider how identified difficulties might be addressed by
CMC
→
Revise Plan
→

Intervention Study 1 designed -
feasibility study of on-line educational counselling
within a ‘Virtual Campus’ environment
→
Act
implement Intervention Study 1 (1996)
questionnaires, observation
→
Reflection
evaluate results
→
Revise Plan
→

Intervention Study 2 (Main study) designed -
modifications include group dimension
for educational counselling
→
Act
implement Intervention Study 2 (1997)
questionnaires, observation
→
Reflection
evaluate results;
consider which issues merit further investigation
→
Revise Plan
→

Personal Interviews designed -
in depth exploration of issues raised in earlier studies
→
Act
implement Personal Interviews (1999)
‘face to face’ interviews,
‘epistolary’ online interviews
→
Reflection
evaluate results from all studies
→
Conclusions drawn

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Chapter 4: The Exploratory Study

4.1 Introduction

As described in Chapter 3.5.1, this preliminary investigation was designed to explore the study strategies adopted by undergraduate distance learners with long-term health problems and to identify any common areas of perceived difficulty in this respect. The investigation aimed to critically assess whether students might be disadvantaged by their illness in the pursuit of their studies. The main research question addressed was:

- “What are the barriers to effective study for undergraduate distance learners with long-term health problems?”

The environment of the study was The Open University UK. A considerable number of students with disabilities are registered as undergraduates with this institution. In 1995 they totalled 4964, of whom 3020 (61%) were women and 1944 (39%) were men (source: Office for Students with Disabilities, The Open University UK). Interest in the area of long-term health problems has grown as more students in this category are opting to study with the university. Between 1988 and 1994 experimental development of the Open University computer conferencing system was steadily increasing in scale. This meant that for the first time participating students, coming from a wide geographic area within the UK, found that they had a forum where their experiences of study could easily be shared and compared informally. This contact was possible both on a ‘one to one’ basis by e-mail and in CMC self help group conferences. Discussions via the network between a nucleus of students with a variety of medical conditions and disabilities during this period suggested that there might be a number of study related difficulties occurring. (Dyer 1991; Lay 1994; Debenham 1991). This prompted an appraisal of the literature relating to disability research to explore what was known about this area of interest.
A considerable body of material relating to models of disability concerned with the experience of those with disabilities which are stable in nature (or have stabilised) was identified. However, it appears that little research has been undertaken relating to the experience of those suffering from serious medical conditions that might fluctuate in severity over time. This finding suggested that this was an area that merited further investigation. The Exploratory Study was therefore devised to explore the nature and extent of difficulties encountered by distance learners with long-term health problems (see Chapter 3.5.1).

Since the study focused on exploring any problems that might be experienced with the study process by students suffering from a range of serious health conditions, itcatalogues what could perhaps on first reading be interpreted as a depressing situation. To redress the balance it should be made clear that an analysis of the questionnaires revealed an overriding picture of optimism rather than pessimism. When reading the questionnaires at first hand, the researcher become clearly aware of the inspirational determination and courage of individual students in the face of the most daunting illness related difficulties. The Open University provides a framework of study that allows students to study when they would be unable to do so using conventional methods. This in itself is an achievement to be applauded. It should be noted that many of these students had already been studying successfully with the Open University for a number of years and had already completed several courses. They had already achieved a great deal. The survey sought to provide a better understanding of the study requirements of such students as a basis for looking at possible further ways in which any identified barriers might be addressed.

The Open University is a distance-learning institution that uses a variety of teaching methods to support student study. These include specially written course units, set books,
television programmes, radio programmes, face-to-face tutorials with a Course Tutor and residential schools (Summer School – usually one week long for undergraduate students). Work is assessed: (i) on a continuing basis over the course of the academic year, with formative assignments marked and commented on by the Course Tutor (providing an element of individual correspondence tuition) and (ii) by an end of course examination.

Potential sources of difficulty might exist within each of these elements of the study process for students in the target population. As set out in Chapter 3.5.1, a questionnaire was designed to examine the nature of the difficulties concerned with the various components that comprise the study process of an undergraduate course and to explore ways in which any identified problems might be overcome.

The subsequent sections of this chapter describe the implementation of the study and the findings relating to each of the areas explored. Section 4.2 presents a breakdown of the data relating to the composition of the sample. This is followed in Section 4.3 by a presentation of the results relating to each of the areas of study investigated in turn. The findings are discussed with respect to: (i) the whole sample and (ii) to the five largest sub-samples of illness categories represented (Multiple Sclerosis, Myalgic Encephalomyelitis, Diabetes, Epilepsy and Arthritis). This is followed by a discussion in Section 4.4 in which the main difficulties identified are summarised and ways suggested in which disadvantages might be redressed. A period of reflection on these conclusions informed the design of the next study in the series, Intervention Study 1.

4.2 Composition of the sample

The participants in the study were Open University student volunteers (either current students or recent graduates) suffering from a variety of long-term health problems. The
ways in which they were recruited are described in full in Chapter 3.5.1. Approximately 600 questionnaires were issued. 284 completed questionnaires were received of which 3 did not include names and addresses, a response rate of 47.3%. The data sample therefore consisted of 281 completed questionnaires, of which 197 (70.1%) were completed by women and 84 (29.9%) by men. There was a greater response rate by women than by men. The reason for this is not known. Since this survey was not a compulsory exercise organised by the university (participants were respondents to the researcher’s requests for volunteers via various channels), and moreover the target group were by definition very unwell, this response rate is considered to be acceptable.

There are a number of ways in which the composition of the sample can be illuminated from different angles. Firstly, in Figure 4-1 a breakdown of the sample by gender and occupation is presented.
Figure 4-1
A breakdown of the whole sample by gender and occupation (N = 281)

The graph illustrates that:

- 25.98% of the sample (N = 281) consisted of students who were in paid employment, of whom 18.15% were female and 7.83% male.
- 31.68% of the sample were unemployed, of whom 23.49% were female and 8.19% male
- 23.48% were medically retired (and therefore presumed to be on pension), of whom 14.23% were female and 9.25% were male
- 6.76% were over retirement age, of whom 4.98% were female and 1.78% male
- 12.10%, of whom 9.25% were female and 2.85% male, gave no occupation (missing data)

An important finding from this data is that only about one quarter of the population was in paid employment. This is of interest because less money could mean studies that require the purchase of expensive equipment or other extra expenditure (e.g. heavy on-line telephone usage) might be out of the question for this target population. Just under one quarter stated that they had been medically retired whilst about one third were unemployed. The main body of this report concentrates on presenting data analysed in
respect of the whole sample (N = 281) and for the five largest sub-samples of illness represented. These are Multiple Sclerosis, Myalgic Encephalomyelitis, Diabetes, Epilepsy and Arthritis. The remainder of the sample consists of smaller sub-samples of various illness categories. In these cases the numbers were insufficient to merit a separate breakdown of the data by illness category. Some students had more than one illness and analysis was therefore carried out by the condition declared to be the prime illness in each case. Table 4-1 presents the categories of illness represented. Firstly the numbers making up the five largest sub-samples are given. Secondly the sizes of the smaller sub-samples are shown. The ‘Others’ category includes a number of much smaller samples each comprising two students with a particular illness (usually a rare condition) and some individual cases.

<table>
<thead>
<tr>
<th>Illness Group</th>
<th>No. of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple Sclerosis</td>
<td>110</td>
</tr>
<tr>
<td>Myalgic Encephalomyelitis</td>
<td>87</td>
</tr>
<tr>
<td>Diabetes</td>
<td>24</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>14</td>
</tr>
<tr>
<td>Arthritis</td>
<td>10</td>
</tr>
<tr>
<td><strong>Smaller sub-samples</strong></td>
<td></td>
</tr>
<tr>
<td>Back problems</td>
<td>7</td>
</tr>
<tr>
<td>Intestinal problems</td>
<td>6</td>
</tr>
<tr>
<td>Asthma</td>
<td>3</td>
</tr>
<tr>
<td>Others</td>
<td>23</td>
</tr>
</tbody>
</table>

It should be mentioned here that the sample of students with Diabetes (24 students) had many secondary problems apparently caused by complications of their illness. These are given in Table 4-2.
There were also a few students who had developed visual impairment as secondary conditions of Multiple Sclerosis (MS) and occasionally Myalgic Encephalomyelitis (ME) and who therefore experienced all the additional problems associated with this. Table 4-3 presents a breakdown of the employment status of the sample by illness categories.

<table>
<thead>
<tr>
<th>Gender</th>
<th>No. of respondents</th>
<th>In employment</th>
<th>Unemployed: Invalidity benefit; housewives</th>
<th>Medically retired</th>
<th>Over retirement age</th>
<th>Occupation not given</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>32</td>
<td>7</td>
<td>8</td>
<td>13</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Female</td>
<td>87</td>
<td>27</td>
<td>21</td>
<td>21</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>34</td>
<td>29</td>
<td>34</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>ME</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Female</td>
<td>64</td>
<td>13</td>
<td>25</td>
<td>14</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>87</td>
<td>19</td>
<td>32</td>
<td>21</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Diabetes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>9</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Female</td>
<td>15</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>9</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Epilepsy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Female</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Arthritis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Female</td>
<td>9</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>0</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>11</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>5</td>
<td>10</td>
<td>1</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>6</td>
<td>13</td>
<td>5</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 4-2
Secondary medical conditions of Diabetes sample (N = 24)

<table>
<thead>
<tr>
<th>Secondary condition</th>
<th>Number affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual impairment</td>
<td>5</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>1</td>
</tr>
<tr>
<td>Kidney failure</td>
<td>2</td>
</tr>
<tr>
<td>Amputee</td>
<td>1</td>
</tr>
<tr>
<td>Parkinson’s disease</td>
<td>1</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>1</td>
</tr>
<tr>
<td>Asthma</td>
<td>1</td>
</tr>
<tr>
<td>Narcolepsy</td>
<td>1</td>
</tr>
<tr>
<td>Myositis</td>
<td>1</td>
</tr>
<tr>
<td>Pituitary problems</td>
<td>1</td>
</tr>
</tbody>
</table>
In Table 4-3 a distinction has been made in recording those who reported that they were medically retired and those who were unemployed. Those students who were medically retired might have a better level of income than those relying purely on state support. This factor becomes important when considering the cost of new forms of support that might be beneficial to study but beyond the financial means of some students. On this basis, the results for the sub-samples show that in the case of respondents who were medically retired, Multiple Sclerosis had the greatest proportion falling into this category with just under one third of the population, followed by Myalgic Encephalomyelitis with about one quarter.

Finally, the results revealed that 189 of the respondents to the questionnaire had access to a computer and 90 did not have such access. (2 did not specify). This finding is discussed further in Section 4.3.7, which presents the results relating to the final section of the questionnaire.

In the Results section that follows, illustrations drawn from the data for each section of the questionnaire analysed are considered, both with respect to the whole sample, and to the five sub-samples assessed, Multiple Sclerosis, Myalgic Encephalomyelitis, Diabetes, Epilepsy and Arthritis. The illustration tables on which the findings are based may be found in Appendix A4. These give a snapshot of the samples, showing the percentage coping at 76-100 and at less than 50 on the ‘Coping Scale’. In the body of the thesis they have been summarised further in relation to each section addressed by the questionnaire. The full quartile tables from which the illustrations tables in Appendix A4 are drawn are available in Debenham (1996a), Appendix C.
4.3 Results

The discussion of the results presented in Sections 4.3.1 – 4.3.4 centres around a summary of the data relating to each part of Section 1 of the questionnaire. In each section this has been organised into two tables. These show the ‘best case’ and ‘worst case’ scenarios for respondents’ perceived levels of coping with the various elements in question. Results for the whole (All categories) sample are given first, followed by those for the five largest sub-samples of illness category analysed. These are MS (N = 110), ME (N = 87), Diabetes (N = 24), Epilepsy (N = 14) and Arthritis (N = 10). This secondary analysis by illness category was undertaken in order to assess whether there were differences in the difficulties experienced in the study process for the different illness groups that could affect the methods of support that it would be desirable to offer them. In Section 4.3.1 the results relating to the questions about home study and the completion of assignments for continuous assessment are presented (Tutor Marked Assignments). In Section 4.3.2 those relating to tutorial attendance (and inability to attend) are considered. Section 4.3.3 is concerned with problems that students experienced when sitting examinations (both at centres and at home). In Section 4.3.4 the data relating to Residential School (Summer School) attendance is explored. Section 4.3.5 then reviews the findings relating to levels of use of a number of additional types of support for those with special needs. Section 4.3.6 presents the findings relating to student satisfaction with support services. Finally Section 4.3.7 considers the results relating to potential interest in using Computer Mediated Communication (CMC) as a medium of contact to support study in a distance learning institution.
4.3.1 Home study component (Tutor Marked Assignments)

The questions in the Tutor Marked Assignments (TMAs) section addressed possible difficulties associated with those components of the study process involving home study. The questionnaire also asked students to assess the effects of fatigue and difficulties of concentration on these various elements of the study process. The study materials provided for each course consist of a mixture of the elements listed below.

- Specially written course units (which contain the core teaching material)
- Set books
- TV programmes
- Radio programmes
- Cassette tapes

As background information, it should be explained here that Tutor Marked Assignments (TMAs) are the main method of individual tuition used in the Open University. Computer Marked Assignments (CMAs) are also used in some courses. An aggregation of the marks for this work forms one component of the course grade awarded at the completion of the course, the other being the end of year examination. A Course Tutor within the university will typically be responsible for a group of 20 students. TMAs are those marked by the Course Tutor, whilst CMAs are multiple-choice questions with the choice marked in pencil in boxes and these are sent by the student directly to the central headquarters of the Open University to be marked by computer.

A full credit (60-point) course would most usually require the completion of eight TMAs over the period of an academic year, whilst a 30-point course would require four. The assignments are posted to the Course Tutor who makes comments relevant to that individual’s answers and grades them. The university records the grades and the marked
assignment is then returned to the student with the tutor’s comments. Typically for an Arts or Social Science student each assignment would consist of a 1,500 word essay. The next section presents the data relating to the questions asked concerning participants ability to cope with the elements of the study process involved in this aspect of their studies.

Illustrations that present the data for the ‘best’ and ‘worst case’ scenarios in respect of each question for the whole sample and for the five sub-groups sampled are given in Appendix A4, Table 1. These are based on full quartile tables available in Debenham (1996a) Appendix C Tables 1-7. Students were asked to rate their own ability to cope with various elements of the study process on a scale of 1-100 (where 1 = ‘barely able to cope’ and 100 = ‘no problem’) in comparison with their ability to cope when completely fit. The reason for choosing this scale (termed the ‘Coping Scale’) was to make it easy for the student to estimate his/her current ability to cope with the various elements in question as a percentage of their personal Gold Standard, that is to say his/her ability to cope when well. The percentage figures given in Table 1, Appendix A4 relate to the proportion of answers falling into: (i) the (76-100) quartile of the scale and (ii) the proportion falling into the bottom two quartiles (below 50). The results for the whole sample are presented first, followed by those for each of the sub-samples separately analysed.

To facilitate an appraisal of any differences that might occur when considering the whole sample in comparison with individual illness categories, a summarised breakdown of this set of data is presented in Tables 4-4 and 4-5. These tables present the ‘best’ and ‘worst case’ scenario results for each sample analysed. They are organised into the form of a matrix with each element of the study process in question shown in the left hand column. The percentages of the student samples falling into the (76-100) quartile, for the ‘best case’ scenario, or (below 50) in the ‘worst case’ scenario are presented in the subsequent columns. Those for the whole sample are given first (labelled ‘All’) followed by the
figures for each of the sub-samples separately analysed. The rank order for each sample by percentage is in the columns labelled ‘Or’. In the ‘best case’ scenario a ranking of ‘1’ indicates which element of study is coped with satisfactorily by the greatest proportion of each sample through to ‘5’ indicating the smallest proportion. On the other hand, in the ‘worst case’ scenario the ranking ‘1’ indicates which element of study was causing most difficulty for the greatest proportion of each sample and ‘5’ the smallest proportion. The data is discussed in relation to these two tables.

Table 4-4
‘Best case’ scenario for coping with elements of home study

<table>
<thead>
<tr>
<th>Elements of Study</th>
<th>All Or</th>
<th>MS Or</th>
<th>ME Or</th>
<th>Diab. Or</th>
<th>Epil. Or</th>
<th>Arth. Or</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studying units/set books (1)</td>
<td>3 35</td>
<td>3 43</td>
<td>5 11</td>
<td>5 41</td>
<td>3 57</td>
<td>4 20</td>
</tr>
<tr>
<td>Studying TV programmes (2)</td>
<td>1 60</td>
<td>1 77</td>
<td>1 31</td>
<td>3 55</td>
<td>1 64</td>
<td>1 60</td>
</tr>
<tr>
<td>Studying radio programmes (3)</td>
<td>2 52</td>
<td>2 71</td>
<td>2 22</td>
<td>1 62</td>
<td>3 57</td>
<td>2 50</td>
</tr>
<tr>
<td>Completing assignments on time (4)</td>
<td>4 32</td>
<td>4 36</td>
<td>4 17</td>
<td>4 54</td>
<td>5 43</td>
<td>2 50</td>
</tr>
<tr>
<td>Difficulties with physically writing (5)</td>
<td>5 27</td>
<td>5 21</td>
<td>3 17</td>
<td>2 58</td>
<td>1 64</td>
<td>5 10</td>
</tr>
<tr>
<td>Effects of fatigue on elements 1-5 above</td>
<td>12 7</td>
<td>7 5</td>
<td>46</td>
<td>29 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effects of concentration difficulties on Elements 1-5 above</td>
<td>18 24</td>
<td>5 33</td>
<td>29</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Or = order of ranking)

Table 4-4 illustrates that both for the whole sample and all individual categories of illness (with the exception of Diabetes) material presented on television programmes was the element of study with the highest proportion coping well. Visual impairment is a known complication of Diabetes and this may have been the reason for difficulties encountered for participants in this category. It appears that television was the easiest medium to deal with for the greatest number of students across all the categories represented in the sample. However, despite the similarity in ranking order, there was nevertheless a considerable difference in the actual percentages between categories. For example, in the case of the MS sample more than three quarters were coping at (75-100) compared with less than one third for the ME sample. This highlights a considerable difference between the two largest sub-samples. Just over half the whole sample had coped well with radio programmes, but
as before there were striking differences between the two largest sub-samples - almost three quarters in the case of the MS sample compared with less than one quarter of the ME sample. The data relating to the effects of fatigue and concentration difficulties shows that the ME sample had the smallest proportion coping at (75-100) in relation to both of these (only 5% in both cases) followed by the MS group with 7% and 24% respectively. Both of these categories were faring less well than those in the other categories analysed. The data for the ‘worst case’ scenario is presented in Table 4-5.

Table 4-5

‘Worst case’ scenario of coping with elements of home study

<table>
<thead>
<tr>
<th>Order of ‘worst case’ sample scores at (below 50) on ‘Coping Scale’</th>
<th>All Or %</th>
<th>MS Or %</th>
<th>ME Or %</th>
<th>Diab. Or %</th>
<th>Epil. Or %</th>
<th>Arth. Or %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studying units/set books (1)</td>
<td>3 34</td>
<td>3 27</td>
<td>3 50</td>
<td>1 48</td>
<td>5 14</td>
<td>2 60</td>
</tr>
<tr>
<td>Studying TV programmes (2)</td>
<td>5 18</td>
<td>4 12</td>
<td>4 30</td>
<td>3 31</td>
<td>5 14</td>
<td>3 30</td>
</tr>
<tr>
<td>Studying radio programmes (3)</td>
<td>4 19</td>
<td>5 10</td>
<td>4 30</td>
<td>5 12</td>
<td>3 21</td>
<td>5 20</td>
</tr>
<tr>
<td>Completing assignments on time (4)</td>
<td>2 38</td>
<td>2 34</td>
<td>2 51</td>
<td>4 25</td>
<td>1 29</td>
<td>3 30</td>
</tr>
<tr>
<td>Difficulties with physically writing (5)</td>
<td>1 54</td>
<td>1 57</td>
<td>1 62</td>
<td>2 33</td>
<td>1 29</td>
<td>1 90</td>
</tr>
<tr>
<td>Effects of fatigue on elements 1-5 above</td>
<td>70 74</td>
<td>80 37</td>
<td>37 43</td>
<td>43 80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effects of concentration difficulties on Elements 1-5 above</td>
<td>58 50</td>
<td>76 33</td>
<td>33 50</td>
<td></td>
<td>70 70</td>
<td></td>
</tr>
</tbody>
</table>

(Or = order of ranking)

In broad terms, the data in Table 4-5 suggests that a large proportion of the whole sample experienced considerable problems arising from coping with fatigue and concentration in relation to these elements of the study process. Two thirds of the sample assessed their ability to cope with fatigue as (below 50) on the ‘Coping Scale’; over half assessed their ability to maintain concentration at this level. More than half the sample reported major difficulty with handwriting, followed by one third with completing assignments on time and one third studying units/set books.

Consideration of the data by sub-categories shows that difficulty with physical handwriting fell first in the order of sample-score ranking for most categories. Nine tenths of the
Arthritis sample were badly affected, followed by almost two thirds of the ME sample and over half of the MS sample. Overall it is surprising that, whilst there was little difference in the order of ranking scores between the whole sample and the MS and ME samples, there were substantial differences between illness categories in the percentages coping at (below 50). In particular half of the ME sample had severe problems with studying units/set books compared with just over one quarter of the MS sample. The sample with the highest proportion coping badly over the whole spectrum appeared to be the ME sample, with the studies of more than half of the sample severely affected with respect to writing difficulties, completing assignments and studying units/set books.

The questionnaire asked whether or not the student used a word processor in his/her work for TMAs. 61.9% of the total sample said that they did. This suggested that this was a strategy already adopted by these questionnaire respondents to deal with the identified major level of difficulty with handwriting. Table 4-6 below presents a breakdown by samples of the numbers using word processing.

<table>
<thead>
<tr>
<th>Illness category</th>
<th>Percentage using word processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole sample</td>
<td>61.9%</td>
</tr>
<tr>
<td>Multiple Sclerosis</td>
<td>70.9%</td>
</tr>
<tr>
<td>Myalgic Encephalomyelitis</td>
<td>58.6%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>62.5%</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>64.2%</td>
</tr>
<tr>
<td>Arthritis</td>
<td>30.0%</td>
</tr>
</tbody>
</table>

This set of data shows that the sample with the largest proportion of students already using word processing was the MS sample (more than two thirds). The percentage of the Arthritis sample appears low in comparison with the other categories, but since the actual
number of students in this category was small, it would be unwise to draw conclusions
from this.

In addition to the numerical answers copious freeform comments were given in the space
provided on the questionnaire and a summary of the main findings from these are given in
the following section.

Freeform Comments – home study component section

Table 4-7 presents a summary of the issues most frequently raised in the freeform
comments.

<table>
<thead>
<tr>
<th></th>
<th>No. of students mentioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using a word processor was commented on as being particularly helpful with writing by a number of students. Writing difficulties were reported as a particular problem for those with Multiple Sclerosis and Arthritis; Myalgic Encephalomyelitis sufferers were also affected.</td>
<td>174 (61.9%)</td>
</tr>
<tr>
<td>Problems of fatigue and concentration affecting the ability to study were frequently emphasised across all categories.</td>
<td>93 (33.1%)</td>
</tr>
<tr>
<td>Difficulties with holding books/weight of books/page turning. Comb bound course units (provided as a special needs aid on an individual basis) were found to have been helpful by those using them. However, not all of those having this problem had used this type of unit.</td>
<td>22 (7.8%)</td>
</tr>
<tr>
<td>Material on cassette tape was reported as useful by some of those with visual impairment - mainly specifically mentioned by those with Diabetes and Multiple Sclerosis.</td>
<td>12 (4.3%)</td>
</tr>
<tr>
<td>Timing of radio programmes at unsocial hours was mentioned; a number said that they taped programmes to deal with this.</td>
<td>11 (3.9%)</td>
</tr>
<tr>
<td>A desire for more flexible arrangements for the submission of TMAs was expressed. (Researcher’s note: It should be noted that it was already possible to contact tutors to request a time extension in a particular instance. However, comments from these students suggested a perception on their part that it would address the issue of severe fatigue and potentially improve their performance if it were possible for a pre-arrangement to be agreed, thus removing the pressure of deadlines for submission).</td>
<td>22 (7.8%)</td>
</tr>
</tbody>
</table>
These findings provide further information which illuminate the findings of the quantitative data by highlighting areas of specific difficulty raised by survey respondents.

**Summary of findings for home study component**

In summary the results of questions relating to the home-based components of the study process revealed that students experienced many difficulties. Overall the findings indicated that fatigue and concentration difficulties posed considerable barriers to study for a majority of the sample. The ME sample had the greatest proportion coping at (below 50) on the ‘Coping scale’ across all elements of the study process. A number of students from this group commented in the freeform text on the incapacitating nature of the fatigue they experienced, so that when fatigue struck there was no way in which they could continue to study. This was said to be unpredictable from day to day so that the coping capacity varied accordingly. Some of those with Epilepsy commented that their medication resulted in concentration difficulties, as did some of those with Arthritis. In the latter case there was the vicious circle whereby pain caused fatigue and lack of concentration. The medication taken to alleviate the pain exacerbated the concentration difficulties. The fact that two thirds of the sample used a word processor suggested that for these participants use of a computer was a valuable aid in addressing the barrier of handwriting difficulty.

Several of the highlighted difficulties suggested that better interactive communication with support agencies was desirable. There was a need to find a way to facilitate the seeking and giving of advice on measures that could best address the problems encountered. These include, for example, the perceived need for flexibility in deadlines for submission of work, provision of comb bound units and audio and videotapes to replace radio and
television broadcasts. The results suggest that TV and radio programmes were the elements of study coped with best by the highest proportion of the respondents, indicating that material presented in this way might be the least tiring and easiest to assimilate. To investigate if this is actually the case, it would be necessary to devise a comprehension test.

4.3.2 Tutorials

Face-to-face tutorials (typically of two hours duration, but in some cases a day, or a half day school) are provided by the Course Tutor for his/her tutor group. These are held at regional locations at intervals throughout the year. The purposes of these tutorials include those described below (not an exclusive list).

- The development of skills associated with independent learning
- Further explanation and expansion of the home study course materials by the tutor. (Additional written material may be provided by the tutor)
- Interactive discussion between the tutor and student group of questions arising from this
- A means for students to meet each other face-to-face.

The number of tutorials varies with different courses, but may average one every six weeks for 60-point courses. At Level 1 a greater number of venues are provided than for higher-level courses because of the larger numbers registered; tutorials are also held at more frequent intervals. Higher-level courses with few students may only have one venue per region, and consequently this may mean travelling long distances to attend. To overcome this problem, particularly in sparsely populated areas, additional methods of support are sometimes offered. Table 4-8 presents the number who had been unable to attend tutorials at the time of completing the questionnaire.
Table 4-8
Number of respondents not able to attend tutorials at all

<table>
<thead>
<tr>
<th></th>
<th>No. of questionnaire respondents unable to attend tutorials</th>
<th>Percentage of sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole sample (N = 281)</td>
<td>66</td>
<td>23.5</td>
</tr>
<tr>
<td>Five largest sub-samples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple Sclerosis (N = 110)</td>
<td>26</td>
<td>23.6</td>
</tr>
<tr>
<td>Myalgic Encephalomyelitis (N = 87)</td>
<td>23</td>
<td>26.4</td>
</tr>
<tr>
<td>Diabetes (N = 24)</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>Epilepsy (N = 14)</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td>Arthritis (N = 10)</td>
<td>2</td>
<td>20.0</td>
</tr>
</tbody>
</table>

Those students in this category unable to attend at all and a number of those whose attendance was dependent on fluctuations in their health frequently commented in the freeform section of the questionnaire on the fact that they missed the contact with other students at face-to-face tutorials.

As in the previous section, a summary of the ‘best case’ and ‘worst case’ scenarios for the elements of study about which questions were asked is presented in Tables 4-9 and 4-10. Following a similar format to that of the previous section, these summary tables present the data for the whole sample first followed by that for each sub-sample analysed. A full illustration of the responses relating to each question in the case of the whole and the five sub-groups sampled is provided in Appendix A4, Table 2. It relates to the various potential areas of difficulty concerning tutorial attendance that were addressed in the questionnaire. This data is based on full quartile tables, which are available in Debenham (1996a) Appendix C Tables 8 –14.

[Explanatory note: In considering the data presented in this section, it should be noted that it relates to the number of students (N) in each category answering the question. It
excludes those who could not attend at all (already presented in Table 4-9) and also the missing data for those who did not answer. The percentage figures given are percentages of those answering the question for each sample. The reason for this is to give as accurate a picture as possible of the level of difficulty for those actually managing to attend. The number represented by ‘N’ is given in each case in Table 2 of Appendix A4.]

Questions were included on possible difficulties associated with being in a stuffy atmosphere and in a crowded place. The reason for the former was that it was deemed to be a likely problem for those with Asthma. It might also cause problems for those with other conditions, for example, ME or MS. The reason for the latter question was that this might cause problems for:

- those who for any reason have limited energy levels and who are therefore easily fatigued;
- those with balance problems;
- those with difficulty in walking due to (for example) Arthritic pain;
- those in wheelchairs;
- those who are visually impaired.

These types of problem might occur not only in the tutorial room itself, but also in the common areas of access at venues that must be negotiated in order to get there.
Table 4-9
‘Best case’ scenario for Tutorial attendance

<table>
<thead>
<tr>
<th></th>
<th>All Or %</th>
<th>MS Or %</th>
<th>ME Or %</th>
<th>Diab. Or %</th>
<th>Epil. Or %</th>
<th>Arth. Or %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel to tutorial venues</td>
<td>4 48</td>
<td>4 45</td>
<td>5 34</td>
<td>5 66</td>
<td>2 73</td>
<td>3 37</td>
</tr>
<tr>
<td>Personal mobility problems at venues</td>
<td>5 43</td>
<td>5 32</td>
<td>3 35</td>
<td>3 72</td>
<td>1 82</td>
<td>4 13</td>
</tr>
<tr>
<td>Problems with access at venues</td>
<td>2 54</td>
<td>3 49</td>
<td>1 49</td>
<td>4 68</td>
<td>3 70</td>
<td>4 13</td>
</tr>
<tr>
<td>Problems with stuffy atmosphere</td>
<td>1 61</td>
<td>2 63</td>
<td>2 46</td>
<td>2 76</td>
<td>3 70</td>
<td>1 71</td>
</tr>
<tr>
<td>Problems with being in a crowded place</td>
<td>3 53</td>
<td>1 73</td>
<td>4 34</td>
<td>1 86</td>
<td>3 70</td>
<td>2 62</td>
</tr>
<tr>
<td>Effects of fatigue on study at tutorials</td>
<td>22 19</td>
<td>19 6</td>
<td>6 50</td>
<td>55 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effects of difficulties of concentration</td>
<td>31 41</td>
<td>41 8</td>
<td>8 55</td>
<td>45 24</td>
<td>30 32</td>
<td></td>
</tr>
</tbody>
</table>

(Or = order of ranking)

The data presented in Table 4-9 shows that in the case of the ‘All categories’ sample, for those able to attend tutorials stuffy atmosphere was the potential problem causing least difficulty, with almost two thirds of those able to attend tutorials managing well. More than half the sample had coped well with access and being in a crowded place, but less than half with travel and personal mobility. Almost one third of the sample had managed well with maintaining concentration levels and less than one quarter with the effects of fatigue.

Looking next at the sub-samples, the breakdown of data revealed major differences in the proportions coping well with fatigue and concentration difficulties. Those with ME accounted for the smallest proportion coping well at this level (less than one tenth in both cases), followed by the MS students with fatigue (one fifth) and the Arthritis students with fatigue and concentration (one quarter).

The data for the ‘worst case’ scenario presented in Table 4-10 illustrates the areas where the greatest difficulties were occurring.
Table 4-10
‘Worst case’ scenario for Tutorial attendance

<table>
<thead>
<tr>
<th></th>
<th>All Or %</th>
<th>MS Or %</th>
<th>ME Or %</th>
<th>Diab. Or %</th>
<th>Epil. Or %</th>
<th>Arth. Or %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel to tutorial venues</td>
<td>2 38</td>
<td>2 39</td>
<td>1 48</td>
<td>3 19</td>
<td>4 18</td>
<td>3 50</td>
</tr>
<tr>
<td>Personal mobility problems at venues</td>
<td>1 42</td>
<td>1 52</td>
<td>4 40</td>
<td>1 27</td>
<td>4 18</td>
<td>1 87</td>
</tr>
<tr>
<td>Problems with access at venues</td>
<td>3 32</td>
<td>3 35</td>
<td>5 36</td>
<td>2 23</td>
<td>1 20</td>
<td>2 75</td>
</tr>
<tr>
<td>Problems with stuffy atmosphere</td>
<td>5 30</td>
<td>5 18</td>
<td>3 45</td>
<td>4 10</td>
<td>1 20</td>
<td>4 29</td>
</tr>
<tr>
<td>Problems with being in a crowded place</td>
<td>4 32</td>
<td>4 22</td>
<td>2 45</td>
<td>5 9</td>
<td>1 20</td>
<td>5 25</td>
</tr>
<tr>
<td>Effects of fatigue on study at tutorials</td>
<td>56 55</td>
<td>72 66</td>
<td>36 27</td>
<td>36 75</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Effects of difficulties of concentration</td>
<td>41 33</td>
<td>66 13</td>
<td>13 27</td>
<td>27 62</td>
<td>62</td>
<td></td>
</tr>
</tbody>
</table>

(Or = order of ranking)

In the case of the whole sample, more than half of those able to attend tutorials reported coping very badly with the effects of fatigue and more than one third with difficulties of concentration. The ME and Arthritis samples were those most severely affected by this problem. In relation to the other questions specific to tutorial attendance, the results identified severe problems with personal mobility as the biggest barrier to attendance. Problems of access, being in a crowded place and stuffy atmosphere were each reported by one third of the sample. In the case of the sub-samples, the MS, Arthritis and Diabetes populations followed the trend of the ‘All categories’ sample with problems of mobility first in order. For those with ME, problems of being in a crowded place fell second in the ranking order, with just under half the sample coping badly with this scenario. This was a much higher proportion than for any other group. The ME sample also had an equally high proportion coping badly with stuffy atmosphere (just under half compared to just less than one third of the whole sample and one fifth of the MS samples).

Freeform comments related to Tutorial attendance

A brief summary of the most frequently mentioned comments from the freeform text of those managing to attend tutorials is presented in Table 4-11 below.
Table 4-11
Summary of difficulties encountered at Tutorial venues (N = 215)

<table>
<thead>
<tr>
<th>Difficulties encountered</th>
<th>No. of students mentioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problems of fatigue and concentration affecting both the ability to travel and the ability to benefit from the teaching and discussion of the tutorial itself</td>
<td>48</td>
</tr>
<tr>
<td>Exhaustion for days after attendance</td>
<td>5</td>
</tr>
<tr>
<td><strong>Difficulties experienced at tutorial venues</strong></td>
<td></td>
</tr>
<tr>
<td>Parking problems</td>
<td>14</td>
</tr>
<tr>
<td>Stuffy atmosphere</td>
<td>14 (including 3 with Asthma)</td>
</tr>
<tr>
<td>Being in a crowded place</td>
<td>13</td>
</tr>
<tr>
<td>Doors not wide enough for wheelchairs and on occasions suitable doors locked</td>
<td>9</td>
</tr>
<tr>
<td>Insufficient toilet provision for those with disabilities</td>
<td>7</td>
</tr>
<tr>
<td>Insufficient or no seating available in reception areas when sometimes having long wait for transport</td>
<td>4</td>
</tr>
<tr>
<td>Last minute room changes necessitating a further effort of walking</td>
<td>3</td>
</tr>
</tbody>
</table>

**Issues raised by individual students**

Tutorials on upper floors with lifts not always available or not working

A need for understanding of possible difficulties by tutors was highlighted. These included:

- seating with an unimpaired view of the black/white-board
- seating with a direct view of the tutor
- permission to record the tutorial for future reference (particularly important for those with writing difficulties who can’t easily take notes)
- provision by tutor of summary notes of his/her presentation. (Concentration can be more impaired in a group than when studying alone as a result of the necessity of having to pay attention to and absorb interactive discussion between a number of people).

These freeform comments provided a further indication that these were areas that in some cases were perceived as posing considerable hurdles to study.
Summary of findings (Tutorial attendance)

66 students (from the whole sample of 281) reported being unable to attend face-to-face meetings at all and of the remainder a number reported being able to attend occasionally and with great difficulty. The result was isolation in their studies. Those who did manage to attend often reported that they often paid the price of an increase in fatigue levels for some time afterwards. Difficulty with severe fatigue was reported by more than half of those who managed to attend and with concentration by well over one third. These two difficulties posed considerable barriers in this aspect of study. In particular, in the freeform comments a number of students with ME stressed the variability of their symptoms from day to day, which made forward planning very difficult. In other cases it depended on distance and whether transport was available in the form of lifts from others.

Special access provision at study centres  The results suggested a need for improvement in unobtrusive special provision for access. Issues that were cited included: (i) a need for easy parking facilities close to the venue; (ii) study rooms which are easily accessible by wheelchair; (iii) rooms on ground floor (or near to lifts if on upper floors); (iv) easily accessible disabled toilet facilities; and (v) seats in waiting areas. The barriers posed by fatigue and concentration were again identified as being important here. From the freeform comments in the questionnaires it was clear that the physical effort of getting to tutorials was in many cases a mammoth exercise. What requires very little effort and might appear a trivial problem to a fit person could feel like the equivalent of running a marathon for someone with health problems. This could result in such fatigue before the tutorial even began that it required a considerable degree of extra physical effort to take an active part. One illuminating comment from the freeform comments was that ‘the venue was too full of fit people moving around too fast’. When one is not feeling well and perhaps unsteady on the feet, being in a place where there is a lot of bustle (quite normal,
good and acceptable when fit) could be very difficult to deal with and result in feelings of bemusement and insecurity.

**Additional support methods** For those not able to attend tutorials, or to do so rarely, the results suggested that a greater use of additional support methods might be valuable to compensate for the lack of contact with others, both tutorial staff and other students. This is discussed in Section 4.4, in the light of the literature reviewed. The following section presents the data relating to the taking of examinations.

### 4.3.3 Examinations

Each Open University course, whether full (60 point) or half (30 point) credit, requires a three hour examination to be taken at the end of the academic year. These are normally held in regionally based examination centres. However, for those for whom this poses severe problems for any reason it is possible for special arrangements to be made. For those with disabilities or health problems this will usually involve the examination being taken in the student’s own home with an invigilator present. Extra time may be allowed for rest breaks or to compensate for difficulties with writing. An amanuensis is also sometimes allowed. In exceptional cases of severe difficulty individual arrangements are sometimes made for the examination to be taken over two days or even longer.

In the section of the questionnaire relating to examinations, students were asked to make an assessment of their own ability to cope with the various elements associated with the taking of end of year examinations, again using the ‘Coping Scale’ of 1-100. 132 students (47.0% of the sample) answered that they were not currently able to attend examination centres. The number needing to take a home-based examination provides an indication of the severity of the health problems experienced by these students.
The data in this section proved complex to analyse because of the following circumstances. Eleven of those able to attend centres had not yet taken an examination and therefore could not answer the questions. Similarly twenty-two of those due to take examinations at home had not yet taken one and therefore could not answer. Two students were Associates not taking exams and one had withdrawn before taking an exam. Some had attended centres in previous years before their condition deteriorated and so had answered the questions both for examinations taken at centres and for home based examinations.

As in the earlier sections, illustrations of the ‘best’ and ‘worst case’ scenarios are provided in Appendix A4, Tables 3a and 3b. For the full quartile tables from which the data is drawn see Debenham (1996a) Appendix C Tables 16 – 22.

[Explanatory note: Because of the complicating factors described above, the numbers (N) given in the illustrations of Tables 3a and 3b, Appendix A4 are in each case the total of those who answered the question, firstly for the whole (all categories) sample and secondly for each of the illness categories separately analysed. The percentages quoted are percentages of these individual totals. For these reasons the data presented in this section may only be regarded as useful indicators of a trend. That relating to the first three questions refers to those able to attend examination centres. That relating to the last four questions refers to both centre and home based exams. In the latter case the illustrations present the two sets of data for similar questions one beneath the other.]

As in previous sections, in order to see more clearly where differences were occurring between illness categories, the figures from the illustrations given in Appendix A4 have been further summarised in Tables 4-12 and 4-13 to present the order of sample scores for those coping at (76-100) on the ‘Coping Scale’ (‘best case’) and those coping at (below 50)
(‘worst case’). Separate figures are given for those taking the examination at centres and at home. Those taking examinations at home are usually those most severely ill and it was of interest to see if there were differences in the proportion coping well with time limits and writing when special arrangements had been put in place for them.

Table 4-12
‘Best case’ scenario - Examinations

<table>
<thead>
<tr>
<th>Ordering of Samples Scores at (76-100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre based examinations</td>
</tr>
<tr>
<td>All Or %</td>
</tr>
<tr>
<td>Travel to centres</td>
</tr>
<tr>
<td>2 61</td>
</tr>
<tr>
<td>Personal mobility at centres</td>
</tr>
<tr>
<td>3 60</td>
</tr>
<tr>
<td>Problems with access at venue</td>
</tr>
<tr>
<td>1 68</td>
</tr>
<tr>
<td>Time limit for examination</td>
</tr>
<tr>
<td>5 42</td>
</tr>
<tr>
<td>Physical writing in examinations</td>
</tr>
<tr>
<td>4 46</td>
</tr>
<tr>
<td>Effects of fatigue on taking of exam</td>
</tr>
<tr>
<td>28 30</td>
</tr>
<tr>
<td>Effects of concentration difficulties on exam</td>
</tr>
<tr>
<td>36 36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Home based examinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Or %</td>
</tr>
<tr>
<td>Time limit for examination</td>
</tr>
<tr>
<td>1 42</td>
</tr>
<tr>
<td>Physical writing in examinations</td>
</tr>
<tr>
<td>2 22</td>
</tr>
<tr>
<td>Effects of fatigue on taking of exam</td>
</tr>
<tr>
<td>15 15</td>
</tr>
<tr>
<td>Effects of concentration difficulties on exam</td>
</tr>
<tr>
<td>26 33</td>
</tr>
</tbody>
</table>

(Or = order of ranking)

Table 4-12 shows that for the ‘All categories’ sample of those able to attend centres to take examinations two thirds of the sample reported managing well with problems of access travel and personal mobility. However, a comparison with the data for each of the sub-samples shows that although the order of scores was similar, there were differences to be noted between illness categories. For example, a smaller proportion of the MS and ME samples reported coping well with travel and mobility than for those with Diabetes and Epilepsy. However, since the sample sizes of the latter categories were much smaller than those of the former it is only possible to view these differences as indications of a trend. Just over one quarter of the ‘All categories’ sample was coping well with the effects of
fatigue and more than one third with maintaining concentration. Whilst the results for the MS sample are similar to those of the ‘All categories’ sample in this respect, the ME sample had a much lower proportion coping well and the Diabetes sample much higher.

For those taking the home-based examination the proportion of the ‘All categories’ sample coping well with the time limit was identical to that of those taking exams at centres. However a much smaller proportion reported coping well with writing difficulties (just under one quarter, compared with almost a half at centres). This was not unexpected since the most severely affected were most likely to be taking the home-based exam.

A comparison of the sets of data for fatigue and concentration between those attending centres and those taking home based examinations revealed a lower percentage of the whole sample taking the examination at home coping well than was the case for the sample attending centres (less than one fifth compared to more than a quarter). In the case of maintenance of concentration the results also showed a difference, (one quarter at home compared with just over one third at centres). It is premised that this was because those taking home-based examinations were probably those most severely ill. With the exception of Epilepsy there was a similarly lower proportion for all sub-samples coping well with fatigue and concentration problems.

Table 4-13 presents the data for the ‘worst case’ scenario – that is the percentages of the samples coping at (below 50) on the ‘Coping Scale’.
Going on to consider the ‘worst case’ scenario of those coping at (below 50) on the ‘Coping Scale’, the results presented in Table 4-13 reveals that difficulty with physically writing answers in examinations had the highest proportion coping badly in every case. This was so for both those attending centres and those taking home based examinations. A higher proportion of the ‘All categories’ sample of those taking the exam at home reported suffering severely from the effects of fatigue (two thirds compared to just over half). With respect to the sub-samples, the data shows that in both cases those with ME appeared to be worst affected (almost three-quarters of those attending at centres and four-fifths of those taking a home based examination).

**Freeform comments (Examinations)**

The freeform text contained many appreciative comments about the special arrangements made by the university for the taking of examinations. Arrangements tailored to individual needs had been made. In the main it seems that this is an area that had been well
understood and that suitable support and arrangements had been provided. However, some
difficulties had arisen and a summary of some of the most frequently mentioned problems
is given in Table 4-14.

<p>| Table 4-14 |</p>
<table>
<thead>
<tr>
<th>Summary of issues raised in freeform comments in relation to Examinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of participants mentioning (N = 281)</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>A word processor was used to take the examination (to compensate for problems with handwriting)</td>
</tr>
<tr>
<td>A number of students (mostly from the Multiple Sclerosis and Arthritis samples) specifically stressed their major difficulty with handwriting. For this reason taking the examination at home may be considered more flexible since it readily permits the use of a PC for word processing. For some even this method is difficult</td>
</tr>
<tr>
<td>Easy access to a toilet is needed. Participants mentioning this include a number from the Multiple Sclerosis sample and those with intestinal illnesses. In these cases home based examinations were preferred to allow such provision to be readily available</td>
</tr>
<tr>
<td>A number of students across all categories who were very unfit specifically stated that they nevertheless preferred to take the exam at centres in preference to a home-based exam. In 7 cases this was because they felt the need to be with others in order to provide the “right” environment; in 2 other cases home circumstances were not suitable for personal family reasons</td>
</tr>
<tr>
<td>Invigilators perceived as not sufficiently sensitive to individual student’s needs in home based examinations</td>
</tr>
<tr>
<td>A number of students with Diabetes commented on the need to take snacks into the examination room and the possible need to inject during the examination, in part because of stress causing changes in insulin levels</td>
</tr>
<tr>
<td>Two students with Epilepsy commented that stress can precipitate seizures; for this reason some had individual rooms provided at Regional Centres to take the examination</td>
</tr>
<tr>
<td>Two students with Epilepsy commented that medication for their condition can adversely affect their concentration and therefore cause problems in taking the examination</td>
</tr>
</tbody>
</table>

An unexpected finding observed by the researcher when considering the freeform
comments was that in a number of cases students sometimes appeared to have felt guilty in
asking for special provision, the implication being that it might be construed as asking to
be advantaged over others rather than redressing a disadvantage. This suggests that an awareness of such sensitivities on the part of those making special arrangements could be helpful to ensure that students are encouraged to ask for what they actually need.

Summary of findings (Examinations)

In the main the findings suggested that the need for flexible provision for examinations had been well catered for, both in examinations at centres and in those that were home based. Handwriting posed a major problem when working against a time limit in examinations. A small number of respondents felt strongly enough to comment on the fact that home invigilators had not been sensitive to their needs during the examination (e.g. chatting through rest breaks; clicking knitting needles during the exam). This suggests it could be valuable for invigilators to be more fully briefed on the likely needs of the individual student before the day of the examination. The comments from students with Diabetes and Epilepsy highlight the desirability of taking into account variations in need between different medical conditions. The finding that nine students who were very unwell nevertheless preferred to take their examinations at a centre because they felt the need to be with others to provide the “right” environment was unexpected. It emphasises the need to consider student autonomy and for careful consultation with students in making arrangements to take their examination. It suggests that it is unsafe to assume that a certain level of illness necessarily automatically indicates a preference for a home-based examination.

In the light of the literature relating to special needs (Chapter 2.2.4) and educational counselling (see Chapter 2.4.3), all of these findings again suggested that there might be potential benefits to be gained from access to a counsellor acting as a liaison between
student and institution for such students with long-term health problems. This might provide an effective way to iron out these types of problem in advance.

4.3.4 Residential Schools (Summer School)

Residential Schools are associated with some, but by no means all, Open University courses. They are campus based at conventional university campuses throughout the UK. Each undergraduate Residential School normally lasts for one week. The venue will depend on the individual course. They consist of a mixture of lectures, seminars, workshops and practical lab work (in the case of Science and Technology courses), plus social events. The intention is to give students the opportunity to experience the sort of study found in a conventional university environment where elements of study skills can only be learnt in a conventional manner. This complements the distance-learning environment of the remainder of their studies. Attendance allows valuable contact with central academics and course authors as well as other students. Residential Schools are regarded as an integral and important part of the study process of those courses that include them. There were a number of students who had not been able to attend Residential Schools at all, and the figures for these are presented in Table 4-15, firstly for the whole sample and then by illness category.

Table 4-15
Percentages of each sample currently unable to attend Residential Summer School

<table>
<thead>
<tr>
<th>Illness category</th>
<th>Number of students</th>
<th>Percentage of sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole sample (N = 281)</td>
<td>85</td>
<td>30.2%</td>
</tr>
<tr>
<td>Multiple Sclerosis (N = 110)</td>
<td>25</td>
<td>22.7%</td>
</tr>
<tr>
<td>Myalgic Encephalomyelitis (N= 87)</td>
<td>36</td>
<td>41.3%</td>
</tr>
<tr>
<td>Diabetes (N = 24)</td>
<td>6</td>
<td>25.0%</td>
</tr>
<tr>
<td>Epilepsy (N = 14)</td>
<td>3</td>
<td>21.4%</td>
</tr>
<tr>
<td>Arthritis (N = 10)</td>
<td>1</td>
<td>10.0%</td>
</tr>
</tbody>
</table>
Table 4-15 shows that almost one third of the sample reported they could not attend residential Summer School. These results indicated some unexpected differences between illness categories. The ME sample had the highest proportion unable to attend with well over two fifths, compared with less than one quarter of the MS sample.

This section of the questionnaire once more asked students to make an assessment of their own ability to cope with various elements of attendance at Summer School on a scale of 1-100 where ‘1’ = ‘barely able to cope’ and ‘100’ = ‘no problem’ (the ‘Coping Scale’). Illustrations of the ‘best case’ and ‘worst case’ results for are given in Appendix A4, Tables 3, 3a, 3b and 3c. These are drawn from the full quartile tables available in Debenham (1996a) Appendix C Tables 22-29. As with the Examination tables, in Appendix A4, Tables 3a-3c the data for Summer School with helper/without helper are presented one beneath the other.

[Explanatory note: As in the Examination section (4.3.3), it should be noted that the results in these tables are based on the actual number of students (N) answering the question and the quartiles are percentages of these figures for each category analysed. The reason for presenting the data in this way is to take account of the fact that some students had attended summer Schools alone in previous years and with a helper in subsequent years. These students therefore chose to answer the questions in both these sub-sections to illustrate the differences for them personally. This was unexpected and this possibility would need to be taken into account in any future questionnaires designed to investigate this area.]
Table 4-16 presents a summarised version of the illustration tables, giving orders of score for the ‘best’ and ‘worst case’ scenarios for those able to attend in relation to the issues raised in the questionnaire.

### Table 4-16

**‘Best case’ scenario - Residential Summer School**

<table>
<thead>
<tr>
<th>Order of sample scores at (76-100) on ‘Coping Scale’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attending alone</strong></td>
</tr>
<tr>
<td>Travel to Summer School</td>
</tr>
<tr>
<td>All</td>
</tr>
<tr>
<td>Or %</td>
</tr>
<tr>
<td>MS</td>
</tr>
<tr>
<td>Or %</td>
</tr>
<tr>
<td>ME</td>
</tr>
<tr>
<td>Or %</td>
</tr>
<tr>
<td>Diab.</td>
</tr>
<tr>
<td>Or %</td>
</tr>
<tr>
<td>Epil.</td>
</tr>
<tr>
<td>Or %</td>
</tr>
<tr>
<td>Arth.</td>
</tr>
<tr>
<td>Or %</td>
</tr>
<tr>
<td>5 43 43 37 5 32 1 86 3 83 4 50</td>
</tr>
<tr>
<td>4 48 48 32 3 56 1 86 3 83 6 20</td>
</tr>
<tr>
<td>6 41 41 7 32 4 42 1 86 3 83 6 20</td>
</tr>
<tr>
<td>1 58 3 49 1 65 5 57 1 100 1 60</td>
</tr>
<tr>
<td>3 49 1 52 6 30 4 71 1 100 1 60</td>
</tr>
<tr>
<td>7 32 7 35 7 19 5 57 7 66 5 40</td>
</tr>
<tr>
<td>2 57 2 51 2 62 6 25 6 80 1 60</td>
</tr>
<tr>
<td>Effects of fatigue on participation</td>
</tr>
<tr>
<td>20 9 9 71 50 40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Attending with Helper</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel to Summer School</td>
</tr>
<tr>
<td>All</td>
</tr>
<tr>
<td>Or %</td>
</tr>
<tr>
<td>MS</td>
</tr>
<tr>
<td>Or %</td>
</tr>
<tr>
<td>ME</td>
</tr>
<tr>
<td>Or %</td>
</tr>
<tr>
<td>Diab.</td>
</tr>
<tr>
<td>Or %</td>
</tr>
<tr>
<td>Epil.</td>
</tr>
<tr>
<td>Or %</td>
</tr>
<tr>
<td>Arth.</td>
</tr>
<tr>
<td>Or %</td>
</tr>
<tr>
<td>2 76 1 80 3 50 1 80 1 100 2 80</td>
</tr>
<tr>
<td>6 64 6 66 3 50 5 60 1 100 4 50</td>
</tr>
<tr>
<td>5 67 5 72 5 31 3 75 1 100 4 50</td>
</tr>
<tr>
<td>1 77 1 80 1 62 1 80 7 50 3 67</td>
</tr>
<tr>
<td>3 72 3 79 6 30 5 60 1 100 1 83</td>
</tr>
<tr>
<td>7 56 7 63 6 30 6 50 1 100 7 33</td>
</tr>
<tr>
<td>4 71 4 73 2 54 3 75 1 100 4 50</td>
</tr>
<tr>
<td>Effects of fatigue on participation</td>
</tr>
<tr>
<td>23 27 7 60 50 0</td>
</tr>
</tbody>
</table>

(All = all categories; Or = order of ranking)

Looking firstly at the ‘All categories’ sample for those attending Summer School alone, food related and accommodation problems were the areas with which the highest proportion reported coping well (more than half the sample). Attendance at social events was the area with the smallest proportion coping well (just under one third).

A comparison of these results with those for students attending with a helper shows that in the case of the ‘All categories’ sample a higher proportion of those receiving such assistance had coped well in all the areas addressed. At first sight this might appear to suggest that attending with a helper should be a recommended course of action in all cases. Indeed when reviewing the results for the sub-samples, it appeared to support this premise.
in the case of the MS sample. However, in the case of the respondents with ME the picture was different and the same level of improvement was not seen in most of the areas under consideration. For those with this condition higher levels of coping were reported only in travel and attendance at social events when attending with a helper. A high proportion of the Diabetes and Epilepsy samples had coped well, both in the case of those attending alone and those with a helper. In the case of those with Arthritis the results show an improvement in most cases for those attending with a helper, but a slight drop in the proportion coping well with attendance at social events and with accommodation. It is considered likely that this was because these students were the ones most severely affected by the pain of their condition.

In the case of fatigue, the proportion of the ‘All categories’ sample coping well was only slightly higher for those attending with a helper. However, looking at the sub-samples it improved from one tenth to more than one quarter for those with MS. In the case of ME it remained almost the same, at the low proportion of about one tenth for those attending alone and one fourteenth of those with a helper. In the case of Arthritis two fifths of those attending alone had coped well and none of those attending with a helper. Again, in this case this might be that those attending with a helper were those most severely affected by the pain of their condition.

Table 4-17 presents a summary relating to the ‘worst case’ scenario. This illustrates that attendance at social events had the greatest proportion of those attending alone coping badly (just over half the sample). This was followed by travel (just under half). There were problems with severe mobility, access on campus and attendance at tutorial sessions for about one third of the sample. One-quarter had experienced difficulties at this level with accommodation and food related problems.
Table 4-17
‘Worst case’ scenario - Residential Summer School

<table>
<thead>
<tr>
<th>Order of sample scores at (below 50) on ‘Coping Scale’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending alone</td>
</tr>
<tr>
<td>All Or %</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Travel to Summer School</td>
</tr>
<tr>
<td>Ability to cope with access problems</td>
</tr>
<tr>
<td>Ability to cope with mobility problems</td>
</tr>
<tr>
<td>Ability to cope with food related problems</td>
</tr>
<tr>
<td>Attendance at Summer School tutorials</td>
</tr>
<tr>
<td>Attendance at social events</td>
</tr>
<tr>
<td>Accommodation problems</td>
</tr>
<tr>
<td>Effects of fatigue on participation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Attending with a helper</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Or %</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Travel to Summer School</td>
</tr>
<tr>
<td>Ability to cope with access problems</td>
</tr>
<tr>
<td>Ability to cope with mobility problems</td>
</tr>
<tr>
<td>Ability to cope with food related problems</td>
</tr>
<tr>
<td>Attendance at Summer School tutorials</td>
</tr>
<tr>
<td>Attendance at social events</td>
</tr>
<tr>
<td>Accommodation problems</td>
</tr>
<tr>
<td>Effects of fatigue on participation</td>
</tr>
</tbody>
</table>

(Or = order of ranking)

Comparing these results with those for those attending with a helper, it was apparent that a smaller proportion of those attending with such assistance considered themselves to be coping badly in every area addressed by the questionnaire. In particular problems experienced with travel diminished, with only one tenth of those attending with a helper reporting difficulties at this level. Again this improvement was borne out by the experience of the MS sample, where the coping capacity appeared to have been considerably improved for those attending with a helper. However, this was not the case for those with ME. In the case of this category, the proportion of the sample coping badly in some of the areas addressed appeared to have been worse for those attending with a helper. This was particularly notable for tutorial attendance (one third of those attending alone compared to almost two thirds of those with a helper).

In the case of Diabetes, the highest proportion coping badly of those attending alone was found in attendance at social events (almost one third) followed by food related difficulties.
(one quarter). Comments from the freeform text (see below) referred to difficulties with diet and for the need for appropriate en suite bathroom facilities for blood testing and injections. Those of this group attending with a helper also appeared to have fared rather better than those attending alone. For those with Epilepsy attending alone, attendance at social events was the area found most difficult by the largest proportion (one third of the sample). Only two students attended with a helper and neither of these fell in the (below 50) range in any category. For those with Arthritis attending alone problems of mobility and attendance at social events were the areas of most difficulty. For those attending with a helper the results show an improved level of coping in every category but one, this being access (two fifths alone compared with half with helper).

Finally, considering the effects of fatigue on Residential School attendance, almost two thirds of the ‘All categories’ sample attending alone reported being severely affected compared with just over half of those with a helper. It is notable that these results suggest that a much higher proportion of the ME sample was severely affected (four fifths of those attending alone and more than two thirds of those attending with a helper). The following section presents the results collated from the freeform comments for the whole sample.

**Freeform comments (Residential Summer School)**

Table 4-18 presents a summary of the most frequent issues raised in the freeform comments space of this section of the questionnaire. 85 students were unable to attend Residential Schools at all. Therefore in this table N represents those who had been able to attend one or more of these schools at some point during their studies.
Table 4-18
Summary of freeform comments - Residential Summer Schools

<table>
<thead>
<tr>
<th>Issues concerned with fatigue</th>
<th>No. of students mentioning (N=196)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major problems associated with severe fatigue which affected ability to take full part in Summer School activities</td>
<td>34</td>
</tr>
<tr>
<td>Fatigue prevented participation on the evening activities, both evening lectures and social activities</td>
<td>25</td>
</tr>
<tr>
<td>The effort of attending resulted in severe fatigue which lasted for weeks and therefore continued to have an adverse effect on study</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issues related to special needs – access and accommodation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulties of access. This included:</td>
<td></td>
</tr>
<tr>
<td>• the necessity of walking what for those with health problems are long distances</td>
<td></td>
</tr>
<tr>
<td>• unsuitable wheelchair routes that involved long detours</td>
<td></td>
</tr>
<tr>
<td>• social activities that necessitated climbing or descending stairs (and therefore limited access)</td>
<td>15</td>
</tr>
<tr>
<td>Lack of suitable en suite accommodation. Issues mentioned include:</td>
<td></td>
</tr>
<tr>
<td>• Diabetics mentioned the need a bathroom in which to inject insulin and measure blood sugar; those with mobility problems need easy access to toilet facilities</td>
<td>8</td>
</tr>
<tr>
<td>• those with intestinal problems (such as Crohn’s disease) frequently need to visit the toilet urgently and therefore also need easy access. The provision of a chemical toilet in the room was not regarded as very satisfactory.</td>
<td></td>
</tr>
<tr>
<td>Issues related to barriers of attitude</td>
<td></td>
</tr>
<tr>
<td>Other students relating to the helper rather than to the disabled student. In some cases the comments indicated that the student felt that they were either ignored or treated differently than the norm.</td>
<td>5</td>
</tr>
<tr>
<td>Helpers provided whom the student did not consider had been adequately briefed beforehand. (Those who took personal helpers with them appear to have fared best; it is premised that this is because of the familiarity of the helper with their personal needs)</td>
<td>4</td>
</tr>
</tbody>
</table>

These findings illustrate that a number of students felt strongly enough to raise a variety of issues which could be grouped under three headings, these being fatigue, difficulties of
access and special accommodation, and barriers of attitude encountered. They provide food for thought on the part of support agencies when making arrangements for Residential School attendance for those with special needs.

**Summary of findings (Residential Schools)**

85 students (30.2%) from the whole sample were unable to attend Residential Summer Schools at all. Many of those who did attend experienced considerable difficulties related to their attendance.

For those attending, problems with severe fatigue were reported by two thirds of the sample. This had affected all aspects of participation in Summer School activities. The results suggest that in order to conserve energy for the formal tuition, workshops and seminar components of the Summer School programme a number of those attending had had to forego the pleasurable social activities on campus and use the time to rest. These students had missed the opportunity to experience the informal contact with others that would be taken for granted in a traditional university. In the freeform comments a number of students made the point that access had sometimes been a difficulty, with social venues being situated on upper and lower floors with no lift available. On some occasions this had led to a feeling of exclusion from the student body. Taken in conjunction with the finding that one third of the sample were unable to attend at all, these results highlight the barrier of isolation experienced by this sample of students. The desirability of better provision of accommodation for those with disabilities was another issue of concern. In some instances en suite facilities were perceived to be of particular importance. This was for reasons arising from problems associated with certain medical conditions.
These findings also highlight differences in experience between illness categories, in particular between the two largest sub-samples analysed (MS and ME). Respondents with MS who attended with a helper appeared to have coped markedly better than those attending alone. It might therefore be beneficial to recommend to all those with MS that they should seriously consider this option. Those with ME attending with a helper do not appear to have benefited in the same way, and the fatigue resulting from attendance in many cases persisted for a long time afterwards. This difference in experience suggests that whilst students with a severe health problem should be encouraged to attend if they feel it is within their physical limits, they should not feel that it is essential to push themselves beyond these. It might be preferable to recommend the use of alternative means of support.

These findings suggest that an improvement in interactive communication with support agencies is desirable. This might: (i) help to inform understanding of special needs on the part of staff and (ii) make more detailed information available to students on the conditions and facilities available at particular Residential School campuses. Such discussion would enable a more informed judgement to be made as to the suitability of a venue for the needs of a particular student. In some instances it might lead to advising that attendance would be contra-indicated.

4.3.5 Additional Methods of Study Support

There are other ways in which study support can be provided within the Open University schedule. Home visits or individual telephone tutorials by course tutors may be arranged for students, where the students request it and their grounds are accepted. Conference call tutorials (in which a tutor conducts an audio tutorial for a group of students via the telephone network) may be provided. At the time of the Exploratory Study in 1994 a few
courses were already making use of computer conferencing as a medium of support. The computer conference could either supplement or take the place of face-to-face tutorials.

The questions in the Additional Methods of Support section of Section One of the questionnaire asked whether or not students had used any of a number of additional methods to support their studies. If they answered ‘Yes’ they were asked to assess how satisfactory they found each individual method on a scale of 1 - 100, where ‘1’ = ‘not helpful’ and ‘100’ = ‘excellent help which could not be bettered’. Illustrations extracted from these tables are given in Table 4-19 for the whole sample followed by the Multiple Sclerosis and Myalgic Encephalomyelitis, Diabetes, Epilepsy and Arthritis sub-samples. (For full quartile tables see Debenham (1996a) Appendix C Tables 30-34). In this section the scale of 1 - 100 is termed the ‘Usefulness Scale’.

The data for the whole sample in Table 4-19 Column 2 shows that only a relatively small proportion of students had experienced any of these forms of support. The highest proportion (just under one quarter) had used a telephone tutorial. About one fifth had had a home visit from a tutor and one fifth had taken part in a Self Help Group of some kind. Less that one tenth had taken part in a conference call or in a course based computer conference.
<table>
<thead>
<tr>
<th>Table 4-19</th>
<th>Illustration of satisfaction levels for Additional Methods of Support</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not used</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole sample (N = 281)</td>
<td></td>
</tr>
<tr>
<td>Home visit by tutor</td>
<td>77.9%</td>
</tr>
<tr>
<td>Individual telephone tutorial</td>
<td>75.8%</td>
</tr>
<tr>
<td>Telephone conference call</td>
<td>93.6%</td>
</tr>
<tr>
<td>Course based computer conference</td>
<td>95.0%</td>
</tr>
<tr>
<td>Self help group</td>
<td>80.4%</td>
</tr>
<tr>
<td>Multiple Sclerosis (N = 110)</td>
<td></td>
</tr>
<tr>
<td>Home visit by tutor</td>
<td>77.3%</td>
</tr>
<tr>
<td>Individual telephone tutorial</td>
<td>77.3%</td>
</tr>
<tr>
<td>Telephone conference call</td>
<td>93.6%</td>
</tr>
<tr>
<td>Course based computer conference</td>
<td>95.5%</td>
</tr>
<tr>
<td>Self help group</td>
<td>78.2%</td>
</tr>
<tr>
<td>Myalgic Encephalomyelitis (N = 87)</td>
<td></td>
</tr>
<tr>
<td>Home visit by tutor</td>
<td>79.3%</td>
</tr>
<tr>
<td>Individual telephone tutorial</td>
<td>73.6%</td>
</tr>
<tr>
<td>Telephone conference call</td>
<td>92.0%</td>
</tr>
<tr>
<td>Course based computer conference</td>
<td>95.4%</td>
</tr>
<tr>
<td>Self help group</td>
<td>81.4%</td>
</tr>
<tr>
<td>Diabetes (N = 24)</td>
<td></td>
</tr>
<tr>
<td>Home visit by tutor</td>
<td>87.5%</td>
</tr>
<tr>
<td>Individual telephone tutorial</td>
<td>78.2%</td>
</tr>
<tr>
<td>Telephone conference call</td>
<td>100.0%</td>
</tr>
<tr>
<td>Course based computer conference</td>
<td>100.0%</td>
</tr>
<tr>
<td>Self help group</td>
<td>87.5%</td>
</tr>
<tr>
<td>Epilepsy (N = 14)</td>
<td></td>
</tr>
<tr>
<td>Home visit by tutor</td>
<td>85.7%</td>
</tr>
<tr>
<td>Individual telephone tutorial</td>
<td>92.9%</td>
</tr>
<tr>
<td>Telephone conference call</td>
<td>92.9%</td>
</tr>
<tr>
<td>Course based computer conference</td>
<td>92.9%</td>
</tr>
<tr>
<td>Self help group</td>
<td>85.7%</td>
</tr>
<tr>
<td>Arthritis (N = 10)</td>
<td></td>
</tr>
<tr>
<td>Home visit by tutor</td>
<td>80.0%</td>
</tr>
<tr>
<td>Individual telephone tutorial</td>
<td>60.0%</td>
</tr>
<tr>
<td>Telephone conference call</td>
<td>90.0%</td>
</tr>
<tr>
<td>Course based computer conference</td>
<td>90.0%</td>
</tr>
<tr>
<td>Self help group</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

The results show that, in the case of the participants making up the small proportion of the sample who had actually experienced home visits, telephone tutorials and Self Help Groups, more than half rated them highly (76-100). Individual telephone tutorials had the highest proportion of the students who had experienced this form of contact who were dissatisfied (almost half).
A comparison of the findings relating to the largest sub-samples with those of the whole sample showed that the MS sample followed the trend quite closely in terms of the numbers using the methods. The ME sample had a slightly lower proportion having had a home visit and a slightly higher proportion a telephone tutorial and self help group. Since the numbers in the other sub-categories were small, in this instance there was insufficient data to consider these separately.

Summary of findings (Additional Methods of Study Support)

In summary, only a small proportion of the sample reported having experienced any of the additional methods of support for their course work. The reasons for these low numbers are not known. In the case of computer conferencing, in 1994 this was not widely available and so it is not surprising. In the case of the other more traditional methods it might be that they had been offered by regional staff and not taken up by students, or that students were not aware of their availability. Again the results suggested a need for better routes of communication to be established. Students need to become more aware of what additional methods of support may be possible. The university aims to foster skills of independent learning, and on this basis there may be an expectation that the student will decide for him/herself when to ask for help. However, it could be that an increased awareness of the likely needs of the individual student on the part of the university could prove beneficial.

4.3.6 Levels of satisfaction with support services

In Section 2 of the questionnaire students were asked if they had received support from the services listed below in Table 4-20 and, if so, to place values on the helpfulness of the support they received on a scale of 1-100 (termed the ‘Satisfaction Scale’) where ‘1’ =
‘little or no help’ and ‘100’ = ‘excellent help which could not be bettered’. A brief explanation of the role of each of the support agencies is presented in this table. Since the Exploratory Study was carried out there have been changes in educational support provision, which will be discussed in Chapter 6.1.1. The services described below were those available at the time when the initial questionnaire was issued.

### Table 4-20
Types of support agency available to students at time of Exploratory Study

<table>
<thead>
<tr>
<th>The Course Tutor</th>
<th>The tutor responsible for tutorials, the correspondence tuition and grading of student assignments and answering queries about the course from students and generally supporting students in their studies.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Tutor Counsellor</td>
<td>Educational counselling support in the Open University has traditionally been provided by a regionally based part time Tutor Counsellor individually allocated to each student. At the time of the Exploratory Study this was the support method in use. For those taking Level 1 courses this was normally one and the same as the Course Tutor. For the student moving on to take higher-level courses the Tutor Counsellor to whom they were allocated for Level 1 study continued to take counselling responsibility. Those entering at Level 2 or higher were allocated to an Associate Counsellor in addition to their Course Tutor. The medium of contact was most usually by telephone (or face-to-face at Level 1 tutorials). Students could contact their Tutor Counsellor for information advice or help with any issues connected with their studies. This could range from information and advice on such issues as future course choice to personal difficulties of any kind that might affect the completion of an assignment or the taking of an examination.</td>
</tr>
<tr>
<td>Regional Centre</td>
<td>There are thirteen Regional Centres in the Open University each covering its own area of the UK. Students could contact their Regional Centres for more general information and if necessary obtain advice from a Senior Counsellor based there. A Senior Counsellor is a full time member of academic staff who will have responsibility for dealing with advising and counselling in situations which require a greater level of knowledge and expertise than that of a Tutor Counsellor.</td>
</tr>
</tbody>
</table>

[Researchers note: Major changes in provision from access to a personally allocated Tutor Counsellor to access a regionally based Academic Advisory Service, on a ‘point of need’ basis have since been implemented for post Level 1 students. This change in provision occurred at the time of Intervention Study 2 and is described in Chapter 6.1.1).]
Table 4-20
Types of support agency available to students (continued)

<table>
<thead>
<tr>
<th>The Regional Disability Advisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each Regional Centre has a Disability Advisor (usually part time) who (at the time of this Exploratory Study) would be available to liaise with the Tutor Counsellor on the specific needs of individual students and should be available to speak to the student if required.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disability Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Office for Students with Disabilities (OSD) is based at the central campus of the Open University at Milton Keynes and holds a database of records for all those students registering a disability, including those with long-term health problems. OSD works at both a policy level on the provision of facilities to meet the needs of different categories of disability (for example visual impairment), and on an individual basis, since students may sometimes contact the office directly to discuss their particular needs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OUSA representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Open University Students Association (OUSA) has regional representatives who are themselves students and who may be approached for information by any student.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summer School Helper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteers, usually themselves students, may sometimes be available to act as helpers for those who could not otherwise attend residential schools (Summer School). Members of the student’s family or personal friends may also be accepted as helpers. Their role will depend on the nature of the disability. It may include pushing a wheelchair around the campus; taking notes for those who have difficulty in writing; carrying food trays; helping students into bed and dressing/undressing.</td>
</tr>
</tbody>
</table>

Illustrations of the results relating to this section are presented in Table 4-22 (for the full quartile tables see Debenham (1996a) Appendix C Tables 35–42). As there were a few recent graduates taking part in the survey who were not taking a current course they were asked to complete the questionnaire based on their experience of their last year of study. The first question in this section asked about the current course tutor and therefore these students are included in the ‘no contact’ percentage (Table 4-22, Col. 2). For clarification purposes, a further breakdown of the ‘no contact’ percentage is firstly presented in Table 4-21.
Table 4-21
Summary of Course Tutor - Current Course ‘No contact ‘percentage

<table>
<thead>
<tr>
<th>Reasons for no contact</th>
<th>No. of Students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not studying in current year (includes recent graduates)</td>
<td>11</td>
<td>3.9</td>
</tr>
<tr>
<td>Had not asked for help</td>
<td>8</td>
<td>2.9</td>
</tr>
<tr>
<td>Had contact for which they gave no numerical rating</td>
<td>5</td>
<td>1.8</td>
</tr>
<tr>
<td>Gave no numerical rating</td>
<td>6</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>10.7</strong></td>
</tr>
</tbody>
</table>

Ten of the thirty students in Table 4-21 were recent graduates, one student was an undergraduate taking a year out from study, eight students said in the freeform comments that they had not asked for help, five undergraduates said that they had some contact but did not give a numerical value for this, and six gave no numerical value with no added comment.
### Table 4-22
Levels of satisfaction with support services

<table>
<thead>
<tr>
<th></th>
<th>Total (‘All categories’) (N - 281)</th>
<th>MS (N = 110)</th>
<th>ME (N = 87)</th>
<th>Diabetes (N= 24)</th>
<th>Epilepsy (N = 14)</th>
<th>Arthritis (N = 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No contact</td>
<td>(76-100)</td>
<td>(below 50)</td>
<td>No contact</td>
<td>(76-100)</td>
<td>(below 50)</td>
</tr>
<tr>
<td>Current Course Tutor</td>
<td>10.7%</td>
<td>53.7%</td>
<td>20.6%</td>
<td>9.1%</td>
<td>61.8%</td>
<td>12.7%</td>
</tr>
<tr>
<td>Tutor Counsellor</td>
<td>7.1%</td>
<td>71.2%</td>
<td>11.4%</td>
<td>8.2%</td>
<td>77.3%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Regional Centre</td>
<td>17.8%</td>
<td>56.6%</td>
<td>14.2%</td>
<td>18.2%</td>
<td>63.6%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Regional Disability Advisor</td>
<td>42.7%</td>
<td>38.8%</td>
<td>13.2%</td>
<td>36.4%</td>
<td>45.5%</td>
<td>12.7%</td>
</tr>
<tr>
<td>Office for Students with Disabilities</td>
<td>49.8%</td>
<td>31.3%</td>
<td>14.2%</td>
<td>38.2%</td>
<td>40.9%</td>
<td>16.4%</td>
</tr>
<tr>
<td>Summer School Helper</td>
<td>67.6%</td>
<td>27.4%</td>
<td>3.6%</td>
<td>64.6%</td>
<td>16.4%</td>
<td>16.4%</td>
</tr>
<tr>
<td>OUSA representative</td>
<td>70.8%</td>
<td>12.1%</td>
<td>14.6%</td>
<td>79.3%</td>
<td>6.9%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Other individual support</td>
<td>89.7%</td>
<td>8.5%</td>
<td>1.8%</td>
<td>94.6%</td>
<td>3.6%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

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Table 4-22 shows that contact with a Tutor Counsellor was the service reported as having been used by the largest proportion of respondents (more than nine tenths of the sample). More than three quarters had at some time had contact with their Regional Centre, but less than half with the Regional Disability Advisor or directly with the Office for Students with Disabilities. In a number of questionnaire responses students indicated they were not aware of the existence of these agencies. More than two thirds had never had contact with an OUSA representative. Two thirds had no contact with a Summer School helper, but as many of the participants had not attended Summer School, this is not surprising.

Whilst this report focuses on student perceptions of problems and difficulties experienced which were revealed by the survey, to maintain a balance it should be made clear that the freeform comments from a number of those who had been aware of the existence of available services contained expressions of appreciation about the help and support which students had received. Individual examples of such comments are given in Table 4-23 (anonymously to respect confidentiality).

| Table 4-23 |
| Extracts from student comments concerned with support structures |

“My tutors are wonderful, especially my Tutor Counsellor who has really kept me going”

“On the whole the OU has been very understanding without being condescending”

“The Regional Disability Advisor has been very good, before, during and for the examination”

“Home exams proved essential and the OU and its invigilators very supportive”

“Although I have not had a telephone tutorial as such, my present tutor has been extremely helpful when I have telephoned”
Summary of findings in respect of Support Services

The number of students having had no contact with (and in some instances professing no knowledge of) the special support agencies provided suggested that there was room for improvement in the communication channels between the university and students. The service with which most contact was reported was communication with the Tutor Counsellor. This also had the highest proportion of students who were very satisfied with the service provided (almost three quarters). The reasons for the apparent under utilisation of additional methods of support are not known. This finding again suggested a possible need for improved communication methods. For some students better access to these facilities might prove beneficial. Looking at the breakdown of sub-samples, the MS sample had the highest level of satisfaction overall. This finding accords with that relating to residential schools, which suggested that there were differences occurring between illness categories. It raises the possibility that the needs of students with MS might have been better understood than some of the other categories. Differences in satisfaction levels between illness groups suggest a need to develop a deeper understanding of the particular needs of different illnesses by the support agencies. It was surprising that more than a tenth of the ME sample reported a high level of satisfaction of support received from other individual sources. It may be that some of those in this category had compensated for less satisfactory help from the more official channels in this way.

4.3.7 Exploration of interest in CMC as a medium of contact

The final section of the questionnaire (Section 3) explored potential interest in participation in a study using CMC as a medium of communication for: (i) access to an educational counsellor (Tutor Counsellor), (ii) course based Self Help Groups and (iii) access to social
peer group support. Students were asked firstly about their access to computers and telephone lines in order to establish what proportion of the sample had access to the equipment necessary for using this form of communication. Table 4-24 presents the results.

<table>
<thead>
<tr>
<th></th>
<th>Number of students</th>
<th>Percentage of sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have access to a computer</td>
<td>189</td>
<td>67.3</td>
</tr>
<tr>
<td>Have access to a telephone line</td>
<td>265</td>
<td>94.3</td>
</tr>
</tbody>
</table>

As most of the sample were either unemployed or medically retired, the proportion having access to a personal computer was surprising. At the time of this study (1994) computers were still very expensive. The fact that these participants had acquired them despite this capital cost suggested that already they were perceived as a powerful aid. Table 4-25 presents a breakdown of the numbers expressing interest in the possibility of taking part in a pilot project to provide the three categories of service, both for the samples with and without access to a computer.
A total of 143 of the 281 respondents expressed a definite interest in the possibility of access to the services of an educational counsellor on-line, with a further 86 unsure. A breakdown of this data suggests that interest was not confined to those who had existing access to a computer. 40 of the 90 respondents without computers expressed a definite interest in such a possibility if the necessary equipment were available; a further 29 were interested but unsure.  The proportion of the sample interested in self-help facilities on-line
was only slightly lower. These results suggested that respondents who were either unable to attend or experienced great difficulty in attending face-to-face tutorials and Summer Schools might appreciate the availability of CMC as an alternative means of support to help to reduce their isolation, both in their formal studies and socially.

4.4. Summary of findings  (Exploratory Study)

The results of the study identified four areas of difficulty common to a high proportion of the whole sample that presented barriers to effective study for students with long-term health problems. Severe fatigue must rank first of these, since it affected all elements of the study process. Any measures that might reduce physical effort and conserve energy might prove valuable. To illustrate the extent of this problem more clearly, the ‘best’ and ‘worst case’ results in respect of these difficulties for each element of the study process have been collated into summary tables. These are presented in Table 4-26.

[Explanatory note: In considering this data it should be noted that whilst the percentages relating to the home study component are from the whole sample, in the case of Tutorials, Residential (Summer) School and Examinations the percentages are of those who actually attended these sessions. They do not include those who could not attend at all. Therefore the figures are not directly comparable but nevertheless are considered useful in providing an indication of a trend].
Table 4-26
Summary of students coping levels for fatigue and concentration difficulties

<table>
<thead>
<tr>
<th>‘Best case’ scenario</th>
<th>Summary of students coping well with fatigue and concentration difficulties (76-100) on ‘Coping Scale’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All (N = 281) %</td>
</tr>
<tr>
<td><strong>Home study component</strong></td>
<td></td>
</tr>
<tr>
<td>Effects of fatigue on elements 1-5</td>
<td>12</td>
</tr>
<tr>
<td>Effects of concentration difficulties on elements 1-5</td>
<td>18</td>
</tr>
<tr>
<td><strong>Tutorials</strong></td>
<td></td>
</tr>
<tr>
<td>Effects of fatigue on study at tutorials</td>
<td>22</td>
</tr>
<tr>
<td>Effects of difficulties of concentration</td>
<td>31</td>
</tr>
<tr>
<td><strong>Centre based examinations</strong></td>
<td></td>
</tr>
<tr>
<td>Effects of fatigue on taking of examination</td>
<td>28</td>
</tr>
<tr>
<td>Effects of concentration difficulties on exam</td>
<td>36</td>
</tr>
<tr>
<td><strong>Home based examinations</strong></td>
<td></td>
</tr>
<tr>
<td>Effects of fatigue on taking of examination</td>
<td>15</td>
</tr>
<tr>
<td>Effects of concentration difficulties on exam</td>
<td>26</td>
</tr>
<tr>
<td><strong>Summer School alone</strong></td>
<td></td>
</tr>
<tr>
<td>Effects of fatigue on participation</td>
<td>20</td>
</tr>
<tr>
<td><strong>Summer School with helper</strong></td>
<td></td>
</tr>
<tr>
<td>Effects of fatigue on participation</td>
<td>23</td>
</tr>
</tbody>
</table>

‘Worst case’ scenario
Summary of students coping at (below 50) on ‘Coping Scale’.

<table>
<thead>
<tr>
<th></th>
<th>All %</th>
<th>MS %</th>
<th>ME %</th>
<th>Diab. %</th>
<th>Epil. %</th>
<th>Arth. %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Home study component</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effects of fatigue on elements 1-5</td>
<td>70</td>
<td>74</td>
<td>80</td>
<td>37</td>
<td>43</td>
<td>80</td>
</tr>
<tr>
<td>Effects of concentration difficulties on elements 1-5</td>
<td>58</td>
<td>50</td>
<td>76</td>
<td>33</td>
<td>50</td>
<td>70</td>
</tr>
<tr>
<td><strong>Tutorials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effects of fatigue on study at tutorials</td>
<td>56</td>
<td>55</td>
<td>72</td>
<td>36</td>
<td>36</td>
<td>75</td>
</tr>
<tr>
<td>Effects of difficulties of concentration</td>
<td>41</td>
<td>33</td>
<td>66</td>
<td>13</td>
<td>27</td>
<td>62</td>
</tr>
<tr>
<td><strong>Centre based examinations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effects of fatigue on taking of examination</td>
<td>53</td>
<td>54</td>
<td>72</td>
<td>33</td>
<td>45</td>
<td>33</td>
</tr>
<tr>
<td>Effects of concentration difficulties on exam</td>
<td>40</td>
<td>42</td>
<td>59</td>
<td>11</td>
<td>45</td>
<td>33</td>
</tr>
<tr>
<td><strong>Home based examinations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effects of fatigue on taking of examination</td>
<td>66</td>
<td>57</td>
<td>82</td>
<td>40</td>
<td>50</td>
<td>83</td>
</tr>
<tr>
<td>Effects of concentration difficulties on exam</td>
<td>48</td>
<td>40</td>
<td>63</td>
<td>40</td>
<td>50</td>
<td>67</td>
</tr>
<tr>
<td><strong>Summer School alone</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effects of fatigue on participation</td>
<td>61</td>
<td>65</td>
<td>79</td>
<td>14</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td><strong>Summer School with helper</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effects of fatigue on participation</td>
<td>52</td>
<td>52</td>
<td>71</td>
<td>20</td>
<td>0</td>
<td>83</td>
</tr>
</tbody>
</table>
Table 4-26 presents the ‘best’ and ‘worst case’ scenarios for coping with fatigue and concentration in the various aspects of the study process. The ‘best case’ scenario illustrates that the home study component (for Tutor Marked Assignments or Computer Marked Assignments) was the area of study with which the smallest proportion of the whole sample reported coping well (just over one tenth with fatigue and just under one fifth for concentration difficulties). The component with which the greatest proportion had coped well was the taking of examinations at centres (just over one quarter for fatigue and one third for concentration).

The ‘worst case’ scenario in the case of the home study component illustrates that just under three quarters of the whole sample had experienced severe problems with the effects of fatigue and more than half with difficulties of concentration. Well over half of the sample had experienced difficulties of fatigue in all the other elements of study and more than one third experienced problems of concentration. When looking at the comparative figures for the sub-samples, these results show that overall the ME and Arthritis samples had the highest proportion severely affected, followed by those with MS. A smaller proportion of the Epilepsy and Diabetes samples were severely affected, but this was still more than one third of the sample for fatigue in most of the areas under investigation. The effects of fatigue and concentration difficulties appear to have had a widespread impact on the study process as a whole.

Secondly difficulty with handwriting was identified as another major area of difficulty that had affected work for both continuous assessment and for examinations. The third common barrier identified was isolation in their studies as a result of inability to attend (or to attend only infrequently and with difficulty) face-to-face tutorials and residential schools. These students were deprived not only of the important element of teaching from
their tutor, but also of valuable contact with their peers. Fourthly the results across all the areas of study explored suggested that often students did not appear to be aware what additional methods of support were available. This finding pointed to a need for better interactive communication with support services.

The results also revealed differences in experiences between illness categories, e.g. experience of Summer School between the MS and ME samples. There might be two possible reasons for this. It might be that support staff understood the special needs related to certain illnesses better than others. It could also be that there are inherent differences between the illnesses (in particular in relation to fatigue). This finding suggests that it might be useful for university support agencies to maintain a record of the nature of illness suffered by individuals (as would be the case in a Medical model of disability) in addition to considering support using a purely Social model.

These findings prompted reflection on possible ways in which the identified barriers might be addressed with the aim of improving effective study. In the light of the findings from the literature of the potential of CMC to support study for those with disabling conditions (see Chapter 2.3.5), the considerable level of interest in taking part in a project to provide access to services via CMC (see Table 4-25) suggested that use of this medium might potentially be useful in a number of ways. These are set out below.

- The asynchronous nature of communication via this medium could permit students to input and receive messages at any time of day or night at a time convenient to themselves. This might provide a way to address the barrier of fatigue.
• Access to a ‘Virtual Campus’ where students could ‘meet’ fellow students for both course based and social discussion could provide a possible way to reduce isolation experienced by those studying alone in a distance-learning environment. The availability of such a mode of interactive contact might foster a sense of involvement with the institution, identified by Frost (1991) as an important factor in effective study in a conventional campus environment. For those with disabilities experiencing severe difficulty in attending face-to-face meetings contact via CMC might help to compensate for their lack of contact both with staff and with their peers.

• Problems of manual dexterity might be addressed by using a keyboard to input text into a computer. For computer conferencing purposes, a system with an off-line reader facility might be desirable since it would permit messages both to be read and prepared at a student’s own speed over a period of time whilst not connected to the system. It could minimise the length of time that students need to be on-line. This might be a way to address the barrier of fatigue. It could also be important for reasons of cost of telephone charges for those with limited incomes.

• An appraisal of the literature in the fields of CMC and educational counselling suggested that use of this medium might provide a useful route for communication between students and support agencies. It had the potential to permit one counsellor, briefed in the special needs of a particular category of students, to provide information and support to that group of students. This could maximise the availability of a scarce resource, since members of such a group might be widely distributed geographically. Interactive contact between students and an advisor via this route, taking a liaison approach such as that described by Newell
and Walker (1991) in a conventional campus environment might promote student autonomy. The maintenance of personal autonomy was identified as an important issue from the literature related to models of disability - see Chapter 2.2.1). Use of CMC as the medium of contact could enable the potential advantages of correspondence counselling identified by Simpson (1988) to be explored further. Interactive contact by e-mail would facilitate a quick and easy exchange of messages, thus addressing the disadvantages associated with slowness of response using postal services.

In summary, consideration of the findings suggested that the use of computer mediated communication (CMC) might provide a way to tackle three of the four problems identified above (fatigue, isolation and handwriting) but did not (within existing service provision) allow for special needs arrangements and any difficulties arising during the study process to be discussed at a personal level. The system should be set up in such a way that CMC access to a counsellor could help, not only for information and/or advice, but also, where necessary, by permitting the counsellor to act as a channel of liaison between the student and institution when special needs arose. Such a provision could also enable difficulties specific to the medical condition of the student to be taken into account easily. The equalising nature of the medium for contact might result in improved quality of communication between students and counsellor. An important issue to be explored was what effects this type of provision might have on perceived levels of student autonomy, motivation and enjoyment of the study process. Further, could a more autonomous framework for study be offered to students with long-term health problems?

In order to explore these issues, a feasibility study was designed (Intervention Study 1). This is described in Chapter 5.
Chapter 5: Intervention Study 1

5.1 Introduction

Empirical data drawn from the literature in the field of CMC (see Chapter 2.3) together with the level of interest in use of the medium to support study shown by the results of the postal survey of volunteers undertaken in the Exploratory Study (see Chapter 4.3.7), suggested that this medium of communication might provide a useful way to address the main barriers to study identified. To recapitulate, these were severe fatigue, difficulties with handwriting, isolation with respect to the study process (caused by an inability to attend tutorials and residential schools – or attend only infrequently), and a need for better interactive communication with support agencies. A feasibility study was designed to test whether CMC could act as an effective medium for an educational counsellor to support Open University students with long-term health problems. The software in use at that time was CoSy4/Wigwam, which included an off-line reader facility. The work took place in 1996. In that year there were around 5,000 users with access to the university data network, so the system was well supported by the Open University and had been tried and tested. This made it a good candidate for this preliminary study.

5.1.1 Aims of the study

The aims of the study were threefold. The primary focus was an investigation of the effects of on-line access to the services of an educational counsellor experienced in special needs for a sample of students with long-term health problems. The counsellor’s remit was to take both an advisory and liaison role, working with the students and negotiating with appropriate support agencies in the university in relation to special needs when necessary.
Secondly, the study would monitor how students coped technically with setting up equipment and using the system. It would explore whether such potential problems might impose a further barrier to study when using this method of communication. Thirdly, it was designed to explore the perceived effects for the participants of access to other facilities available on the ‘Virtual Campus’. These included: (i) course-based Self Help Groups (SHGs); (ii) a peer group conference area, accessible only by named participants; and (iii) Special Interest Groups (SIGs). The study therefore built on the findings of the Exploratory study relating to the original research question, which was:

- “What are the barriers to study for undergraduate distance learners with long-term health problems?”

It addressed two new research questions, as follows:

- “What are the perceived effects for students of access to the services of an educational counsellor available on a ‘Virtual Campus’? Are the barriers to study alleviated by this method?”

- “What are the perceived effects on the study process of access to other facilities available on a ‘Virtual Campus’?”

5.1.2 Educational counselling provision by traditional routes

At the time of this study in 1996 educational counselling support in the Open University was still being provided by a regionally based part time Tutor Counsellor, individually allocated to each student. In the case of students moving on to take higher-level courses, the Tutor Counsellor to whom they were allocated for Level 1 study continued to take counselling responsibility (see Chapter 4, Table 4-20). Those entering at Level 2 or higher were allocated to a Tutor Counsellor in addition to their Course Tutor. The medium of contact was most often experienced by students was the telephone (or face-to-face at Level
1 tutorials). Major changes in provision were implemented at a later date. These occurred at the time of Intervention Study 2 and will be described in Chapter 6.1.1. An overview of student support provision at the Open University, UK is provided by Bailey, Brown et al. (1996), Kelly and Watts (1997) and Sewart (1997). For those with special needs, additional provision (e.g. home based examination and/or tutorials) is usually arranged through the local Regional Centre. However, the Office for Students with Disabilities makes some arrangements centrally. The role of the regional Tutor Counsellor could be important in providing a personal contact point when arranging for extra provision to support student study for students in this category. The results of the Exploratory Study suggested however that, despite the necessary information being available, students were not always aware of the types of special arrangements that could be made on their behalf. If a channel of communication between student and counsellor could be provided via CMC this might be a way to facilitate better interactive discussion. If a dialogue of this nature could be established, then this might result in beneficial effects on the study process, in terms of student autonomy, motivation and enjoyment.

5.2 Implementation procedure

The study was conducted over the period of an academic year. The sample was comprised of six undergraduate students (three male, three female) as described in Chapter 3.5.2. All of the participants were sufferers from either MS or ME. Three were wheelchair users (F01, F03 and M02) and one of these (F03) was very severely incapacitated throughout the period of the study. Two were known to suffer from other medical conditions, in addition to MS. A volunteer Senior Counsellor (a member of Open University academic regional staff and an experienced user of CMC) was recruited to provide an on-line counselling service to each of the group via e-mail, as described in Chapter 3.5.2.
Each of the participants was provided with a US Robotics 28,800 modem on loan. The purchase of these modems was made possible by funding from the Nuffield Foundation. This help is gratefully acknowledged. The students were also provided with the necessary conferencing software (CoSy4 and the Wigwam off-line reader) to connect to the Open University network. All had local call rate via local access nodes made available by the university. Support with the initial setting up of hardware and software to connect to this network was provided by telephone, both by the Academic Computing Service (ACS) help desk and the researcher where necessary.

5.3 Methods of data collection

Methods of data collection (see Chapter 3.5.2) included: (i) a series of student questionnaires issued at intervals during the academic year, (ii) summary record sheets of contacts with students held by the educational counsellor, (iii) an end of year reflective statement about her experience of participation requested from the counsellor and (iv) the low key presence of the researcher as a facilitator in the peer group conference area. A description of the student questionnaires is presented below.

Pre-participation questionnaire (see Appendix B1)

The purpose of the initial questionnaire was threefold: (i) to see how easy or difficult it had been to set up the hardware and software in order to be able to participate at all, given that this was a group of students with varying degrees of disability; (ii) to establish the expectations of students before beginning the study in order to avoid hindsight bias and (iii) to provide information for the counsellor on their likely special needs during the year to maximise knowledge of the types of help that might be needed. This last was partly because students came from different regions, making it difficult for the on-line counsellor
to collate their known needs centrally from existing regional records, and partly to see if any previously unknown needs emerged.

Mid-session questionnaire (see Appendix B2)

A mid-session questionnaire was issued to students to monitor their usage of the counselling services and other feature aspects, such as the user-friendliness of the system, and the frequency of systems usage. It also provided a means of tracking unexpected developments.

End of year questionnaire (see Appendix B3)

A post-participation questionnaire was designed and distributed at the end of the academic year which queried:

- the amount of contact with the on-line educational counsellor and the value assigned by students to various aspects of access to the counsellor’s services via CMC;

- the amount of contact with their individual regional counsellors and the value assigned to various aspects of access to educational counselling services by traditional access routes (most often telephone);

- technical aspects of setting up hardware and software and using the Open University data communications network during the period of the study;

- student assessment of the perceived usefulness of the ‘raft’ of various facilities available on the ‘Virtual Campus’ these being: (i) one-to-one e-mail, (ii) closed peer group conference (DOORway), (iii) course based Self Help Groups, (iv) Special Interest Groups, and (v) informal open chat conferences.

The students were asked to make ratings on a ‘Usefulness’ scale of 1 - 5 (where ‘1’ = not very useful and ‘5’ = very useful indeed) and to expand on their answers in their own words if they wished. The results of the study are described in the following section.
5.4 Results

In this section the findings fall into three main groups. The first of these concerns technical issues, including the hardware and software, use of an off-line reader and frequency of usage (Section 5.4.1). The reason for considering this set of data first is that if students had been unsuccessful in setting up the equipment the project would not have been viable. The next set of data considered relates to educational counselling on-line, the main focus of the study (see Section 5.4.2). In this section the responses from the student questionnaires are analysed, followed by the on-line counsellor’s records. Thirdly the data relating to use of the various facilities available on the ‘Virtual Campus’ is presented in Section 5.4.3. This concerns an exploration of students’ usage of facilities on the ‘Virtual Campus’ and the results of the pre and post participation questionnaires. All six students completed each of the questionnaires. The counsellor returned the record sheets for the students and provided an overview of her own experience of participating in the investigation.

5.4.1 CMC: Technical issues

The sub-sections that follow consider the technical aspects involved in setting up and using the communications software to access the Open University data communications network, the difficulties encountered, together with ways in which the system was used during the course of the year.

5.4.1.1 Setting up of hardware and software

This section examines the data concerned with the experience of participants in setting up the hardware and software. This was a critical time in the pilot study. If it had proved too difficult for the students to set up and configure the equipment, then it would not have been
possible to proceed further. In both MS and ME the degree of disability can fluctuate markedly, ranging from severe incapacity in relapse to periods of only moderate or even slight incapacity in remission. In view of this fact it is difficult to define relative degrees of disability precisely. Sufferers can experience problems of dexterity and disturbances of vision. In the case of dexterity problems this can make handwriting difficult. Even using a keyboard may be time consuming and require a great deal more effort and consequent expenditure of energy than would be the case for a fit person. In the case of disturbance of vision, it may sometimes be difficult to see the computer screen clearly and in particular to read text. It was therefore desirable that the software should include the capacity for the font to be changed to the size and style most easily read by each user. This capability was built into the Wigwam off-line reader. Table 5-1 gives details of levels of computer literacy at the start of the study, the time taken to set up hardware and software, problems encountered and sources of help received by students.

Table 5-1
Equipment and software set up

<table>
<thead>
<tr>
<th>Student Ref. No.</th>
<th>Level of computer literacy</th>
<th>Problems encountered</th>
<th>Time taken to set up hardware and software</th>
<th>Help received</th>
</tr>
</thead>
<tbody>
<tr>
<td>M03</td>
<td>Technical expert</td>
<td>Software would not load to drive D; reloaded without problem on drive C</td>
<td>Setting up time was as short as a few minutes</td>
<td>None</td>
</tr>
<tr>
<td>F01</td>
<td>Word processing user</td>
<td>Manual dexterity problem meant help needed to set up hardware connections</td>
<td>About 1 hour</td>
<td>Technically literate family member</td>
</tr>
<tr>
<td>M02</td>
<td>Word processing user</td>
<td>No problem, but helped by family member</td>
<td>3 hours</td>
<td>Technically literate family member</td>
</tr>
<tr>
<td>M01</td>
<td>Word processing user</td>
<td>Difficulty with modem port, needing attention from engineer to ‘fix’ problem</td>
<td>About 8 to 10 hours with assistance also from family member</td>
<td>a) Local computer dealer (re hardware problem) b) technically literate family member re software set up</td>
</tr>
<tr>
<td>F03</td>
<td>Word processing and database user</td>
<td>Installing fax package (bundled free with modem) caused problems with software and had to be deleted</td>
<td>2 days</td>
<td>Technical expert - friend</td>
</tr>
<tr>
<td>F02</td>
<td>Word processing user</td>
<td>Special equipment incompatibility; mouse needed same port as modem; difficulty in understanding software manual (visual problems)</td>
<td>About 7 weeks</td>
<td>a) Member of Open University special needs team b) Technical expert - family member</td>
</tr>
</tbody>
</table>
Table 5-1 illustrates that three of the six students had managed to set up the hardware and software in times ranging from a few minutes to three hours; two took one to two days and one seven weeks. In this last case the student needed special equipment provided by the university, which was initially delayed in arriving. The delay had been further compounded by a problem arising from interactions of the modifications with the existing equipment. After that the student had experienced difficulty in being able to read the instructions in the software manual because of visual impairment. This had created problems with following instructions. It is a measure of her determination not to be beaten by the problems encountered that she was prepared to persevere in the face of such daunting difficulties. A lesson to be learned here is that in such cases it is necessary to organise the setting up of equipment in good time before the start of the academic year, if such problems are to be avoided - or at least minimised. The other students taking longer than a few hours to set up also persevered until they succeeded, and in most cases had obtained help from knowledgeable family members or friends. One problem had required attention from a local computer engineer. The fact that none of the students dropped out in the face of the difficulties encountered indicates a high level of motivation to take part in the pilot study and gain access to the facilities on offer.

In the mid-session questionnaire (mid July) students were asked whether they had experienced any technical problems since setting up. Five answered ‘Yes’, and one ‘No’. Of the five who answered ‘Yes’ four said that the problems had been occasional and one gave no answer. In two cases the problem had been resolved with the help of the student help desk, one student had asked a family member for help, and one the researcher. One student had had problems in returning the questionnaire via e-mail. In the end of year questionnaire students were asked to make a retrospective assessment of how difficult it had been to get the CoSy4/Wigwam software up and running to access the system and also
how easy and reliable (in the technical sense) they had found it by the end of the year. Three felt there had been some difficulty with set up, one had been agreeably surprised to experience little difficulty and two said they had no difficulty. Five of the six reported that the system had been easy and reliable to use once up and running, and one that he had never understood its full capabilities.

The findings suggested that it was the initial setting up of the system that had given the greatest degree of difficulty. The problems had not been insuperable, probably because all of the students possessed some familiarity with computers before the beginning of the study (it having been a prerequisite of taking part that they had access to a machine). One student who had worked in a related field had needed no help. The remaining five had obtained help both from personal on the spot contacts (mostly technically literate family members), from the Open University Academic Computing Service (ACS) help desk and from the researcher. This suggests that in the case of this category of students with a pre-existing basic knowledge of computers, the most effective way to ensure competence in technical use of the system would be to give a relatively small amount of help with set up in good time before the start of a course. Other research (Oliver 1994; Wilson 1995) has shown this to be desirable in the case of new users taken from the general student population. In particular, Wilson’s comment that it was advantageous to be able to supply documentation specific to the modem highlights an important point.

… ‘One advantage of supplying the modem to the majority of participating students was that we were able to supply documentation specific to the modem. This meant that the setting up of the modem and the software was as easy as possible for the students. This was not an insignificant factor as the students with little experience of computers modems and software were expected to connect to the Open University server from their own home with only the documentation to help. There were no face-to-face meetings beforehand’… (Wilson1995 p 8)
Wilson emphasised the importance of making setting up the modem and software as easy as possible for the student. In the case of students with disabilities with problems of fatigue to contend with, any measures that might be taken to make things easier assume even more importance since the physical effort involved for such students is proportionately greater than for those who are fit.

5.4.1.2 Off-line reader

At the end of the year students were asked how important they had found the use of an off-line reader to be for access to the ‘Virtual Campus’. Five of the six said that it had been ‘very important’ and one ‘quite important’. The associated freeform comments given by the students revealed a number of ways in which it had been found to be useful. Three students rated highly the ability to compose messages in their own time, with no worries about the cost of being on-line. This might be of particular importance to those with dexterity problems. Three students said that to be able to use the medium at times convenient to them personally was important. This was interpreted to mean that they valued being able to choose to work at the keyboard when feeling rested. It reflected the fact that this category of student suffers considerably from the effects of fatigue, a barrier identified in the Exploratory Study. It is important to realise that this may not coincide with the times of cheap rate phone calls (though all students had local call rate access to the system). One student mentioned that use of an off-line reader removed worries of non-availability of the telephone for other family members if long periods had to be spent on-line. Students with disabilities are often very dependent on the support and good will they receive from their families; consequently such an issue may assume particular importance for this category of student. Another student commented on the fact that composing messages off-line permitted careful choice of words, which she considered an important factor in reducing possible misunderstandings by the recipient.
5.4.1.3 Frequency of usage

Students were asked in the mid-session and end of year questionnaires how frequently they had logged onto CoSy over the year. The ‘snapshot’ taken in mid-session was to enable any movement in usage levels to be captured. Table 5-2 gives a summary of these figures.

Table 5-2
Frequency of usage

<table>
<thead>
<tr>
<th>From mid-session questionnaire</th>
<th>More than once a day No. of students</th>
<th>Once a day No. of students</th>
<th>Every few days No. of students</th>
<th>Once a week No. of students</th>
<th>Only occasionally No. of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you log on to CoSy at present?</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

| How often were you logging on to CoSy at the end of the year? | 2 | - | 4 | - | - |

Looking first at the level of usage in mid-session, two students had been very active, logging on more than once a day and one almost as active, logging on once a day. A further two had logged on every few days and one only once a week. By the end of the year the same two students were still logging on more than once a day, whilst the usage for the other four appeared to have settled to every few days. It appears that four students had kept to approximately the same level of usage; one had used it more and one less. However, students were also asked at both mid-session and the end of the year if their usage of the system was increasing or decreasing and this provides more detailed data. The respective figures are given in Table 5-3.
Table 5-3
Increase/decrease in usage of system

<table>
<thead>
<tr>
<th>From mid-session questionnaire</th>
<th>Increasing</th>
<th>Decreasing</th>
<th>About the same</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is your usage of the system increasing or decreasing?</td>
<td>5</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>From end of year questionnaire</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Since completing the mid-session questionnaire did your usage of the system increase or decrease?</td>
<td>5</td>
<td>None</td>
<td>1</td>
</tr>
</tbody>
</table>

The freeform answers associated with this end of year question showed that the two students logging on more than once a day had further increased their number of logins per day by the end of the year. Two of those logging on every few days had increased the number of days per week that they logged in; one had stayed the same. Freeform answers tallied with reported ‘logins’ in almost every case. Any discrepancy is likely to have been because the student had been very ill and hospitalised on a number of occasions and had misremembered in hindsight.

5.4.1.4 Summary of findings (technical issues)

Though some technical difficulties were experienced with setting up the hardware and software, they had not been insuperable and all the participants successfully made it online (see Table 5.1). Five of the six had obtained assistance from a variety of technically literate sources (family member, friend or computer shop). This suggested that these students were resourceful and motivated in finding help for themselves. The results indicated that the amount of help needed with set up had varied, depending both on the level of technical knowledge of the student and difficulty experienced as a result of their medical condition. In all but one case, any problems had been sorted out with help from a source outside the university within a maximum period of two days. A relatively small amount of help with set up offered in good time prior to the start of a course had been
effective in enabling access to the data network. The fact that the majority of the sample reported an increased number of log-ins as the year progressed suggested that they had been finding access useful. The findings highlight the value of using an off-line reader, since this was reported as having enabled messages to be composed at leisure without the costs of being on-line. This relates both to the barrier of fatigue and difficulties of dexterity (associated with handwriting) identified in the Exploratory Study.

In the following section the results relating to educational counselling on-line are presented.

5.4.2 Educational counselling on-line

This section concerns the main focus of the study (educational counselling on-line). The data relating to interactive contacts between the students and on-line counsellor during the course of the study is explored. The information collected from the completed student questionnaires is examined first. Because students retained access to their existing Regional Counsellors, they were also asked about contacts made via this route in order to construct a rounded picture of the pattern of counselling usage for comparison purposes. It is necessary to note that the regional counsellor was a different person in the case of each student. Therefore, where the term ‘regional counsellor’ is used, this is a generic term and does not refer to one person in the same way as does the term ‘on-line counsellor’. Secondly, the data obtained from the counsellor record sheets and her related comments are explored.

5.4.2.1 Student questionnaires

At mid-session, in July 1996, students were asked whether they had found it useful so far to have access to a counsellor on-line. Five answered ‘Yes’ and one ‘No’. The student
who answered ‘No’ did not appear to have had contact. It is considered likely that he might have misread the question. They were also asked to state the number of times they had contacted her. Three answered twice, two once and one gave no answer. At this stage they were not asked about contacts with the regional counsellor. At the end of the year they were asked to state the number of contacts during the course of the study, both for the on-line counsellor and regional counsellors. Table 5-4 presents a summary of: (i) the number of reported student contacts for both on-line and regional counsellors extracted from the end of year questionnaires; and (ii) the on-line counsellor records of contacts made.

Table 5-4
Summary of counsellor contacts during the period of the study

<table>
<thead>
<tr>
<th>Student reference number</th>
<th>On-line counsellor’s record of contacts</th>
<th>Student questionnaire answers</th>
<th>Student questionnaire answers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of issues over which contact made:</td>
<td>Number of on-line counsellor contacts</td>
<td>Number of regional counsellor contacts</td>
</tr>
<tr>
<td></td>
<td>counsellor initiated</td>
<td>No. of issues over which contact made: student initiated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>General</td>
<td>Specific to student</td>
<td>No. of issues over which contact made: student initiated</td>
</tr>
<tr>
<td>Female students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F02</td>
<td>5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>(1 e-mail 1 phone)</td>
<td>(3 e-mail 2 phone)</td>
<td></td>
</tr>
<tr>
<td>F03</td>
<td>5</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>F01</td>
<td>5</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Male students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M02</td>
<td>5</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>M03</td>
<td>5</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>M01</td>
<td>5</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 5-4 shows that five of the six students had initiated contact with the on-line counsellor at some time during the year. Four had also initiated contact with their individual regional counsellors. A greater number of contacts were reported with the regional counsellor than with the on-line counsellor in the case of all but one of the students who had used a counsellor’s services, and a greater number of contacts by the
female students than the male. If the information provided by the students were to be considered in isolation, it would appear that overall students had used the conventional route more than on-line access over the course of the year. However, the table reveals differences between the number of contacts reported by the students and those recorded by the counsellor. As students were not asked to log contacts as they were made, this may indicate memory lapse. It could also be that they were reporting the number of issues over which they made contact rather than the number of contacts actually made. The discrepancy highlights a need for further refinement in future studies. With hindsight, the provision of a record sheet for students to log contacts would have been useful. Additionally there were a number of instances in which the counsellor, rather than the student, had been the initiator of contact, sometimes as a result of reading messages posted by students in Self Help Group conferences. A more detailed exploration of the counsellor’s records will be presented later in the section.

The female students had used counselling services more than the male. This could indicate a gender difference. Other research has suggested that men are less likely to ask questions than women, where asking will reveal their lack of knowledge (Tannen 1995 pp 26-29), but since the study involved working with only a small sample it is not possible to draw any definitive conclusions. The fact that these particular students experienced fewer difficulties during the course of the study could be a chance occurrence. The student with whom the counsellor reported telephone contact had severe problems with set up (taking seven weeks). This was the reason why contact via a different route had been necessary in this case - e-mail was not accessible at the time.

The students were asked how soon the on-line counsellor had responded to their e-mail enquiries and in parallel how soon their regional counsellor had responded when contacted via traditional means of access. A summary of the answers is presented in Table 5-5.
The summary presented in Table 5-5 shows that of the five students who had contacted the on-line counsellor, one reported a response the same day, three by the next day, and one longer. This suggests that the counsellor had been logging on regularly to check for incoming messages, and is considered to be good. In the case of regional counsellor contacts, of the four students reporting contacts, three gave a response time of the same day and one next day. Telephone is assumed to have been the medium of contact in these cases, which means that either the student had made immediate contact with the person being rung or was phoned back within a day if a message had been taken or left on an answer-phone. The response rate was good via this route also.

In the cases of both the on-line and regional counsellors, participants were also asked questions about: (i) their perceptions of the approachability of the counsellor; (ii) their assessment of how well the problem had been understood; and (iii) how satisfied they were with the outcome of any action taken. A summary of the results is presented in Table 5-6.
Table 5-6
Summary of results relating to perceptions of counsellor approachability; understanding of problem; and student satisfaction with action taken

<table>
<thead>
<tr>
<th>Student perception of counsellor approachability (where 5 = ‘very approachable’ and 1 = ‘not approachable’)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On-line counsellor</strong></td>
</tr>
<tr>
<td>No. of students</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Understanding of problem (where 5 = ‘understood well’ and 1 = ‘did not understand at all’)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On-line counsellor</strong></td>
</tr>
<tr>
<td>No. of students</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Satisfaction with action taken (where 5 = ‘very satisfied’ and 1 = ‘not satisfied at all’)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On-line counsellor</strong></td>
</tr>
<tr>
<td>No. of students</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

These results show that the five students who reported contact with the on-line counsellor had found her to be very approachable via CMC. The four students who had had contact with their regional counsellor all also rated ‘approachability’ at ‘5’ on the scale. In respect of ‘understanding of the problem’, in the case of the on-line counsellor four participants gave a rating of ‘5’ on the scale and one at ‘3’; one gave no answer. An answer of ‘3’ or greater was deemed to mean that the student regarded the understanding as satisfactory, but not excellent. In the case of the regional counsellor, for the same question four students gave a rating of ‘5’ on the scale and two reported having had no contact. In this case the medium of contact is assumed to have been telephone. The results were therefore similar for both media. Four of the five students said that they were happy with the action taken by the on-line counsellor, (rated at ‘5’on the scale); one answered ‘No’. The student who answered ‘No’ had said in answer to another question that he had had no contact. This suggests that he may well have misread the question. Of the four students who had contacted their regional counsellor during the year, all four were very happy with the
action taken (rated at ‘5’ on the scale). Again the results were similar. Students were also asked if they were aware of any liaison between the on-line counsellor and their regional counsellors in respect of their queries. Two said there had been no liaison, three were ‘not sure’ (that is they were not aware of any) and one did not reply.

5.4.2.2 On-line Counsellor records

The on-line counsellor kept a log of all her contacts with the students on electronically held record sheets specially designed for the purpose (see Appendix B4). She had initiated contact with each member of the group (sending the same message to each on a mailing list basis) on five occasions during the year, as follows:

- an initial welcome message at the beginning of the study;
- in May, a message informing the students of the setting up of a private counselling conference (for the six students and herself only) for general and course choice related discussion;
- in July, good wishes for Residential Summer School (for those who were attending);
- in September, messages wishing the students luck with their examinations;
- in late November, best wishes for examination results and for Christmas.

She had also initiated contact on an individual basis with several of the students during the year. This was sometimes when she had read a student message in either the closed peer group DOORway conference or another Self Help Group about an issue with which she felt she could offer guidance or give assistance. Here we find an example of interventionist style counselling, as described by Simpson (1977), compared with consultancy counselling, where a counsellor’s role would be to respond only to specific requests for help. It illustrates a unique feature of CMC in that the medium had provided the counsellor with an informal way to gauge when a problem was arising, which would
not be possible in a conventional distance learning environment. In the case of one student experiencing severe health difficulties, the on-line counsellor had liaised fruitfully with a regional Senior Counsellor to address the difficulties. An extract from an e-mail from the regional Senior Counsellor to the on-line counsellor regarding the difficulties of this student reads as follows:

… ‘I am convinced that the electronic link is a lifeline to her and far more responsive than we can be at present. We are setting up a team of ‘continuity counsellors’ for our students with ‘considerable additional requirements’ and we will certainly be feeding in your ‘project’ findings (with your permission) to the discussion we have in this team’…’

(A Regional Senior Counsellor, 1996)

In this instance access to support services on-line had resulted in beneficial interaction with regional support services and had raised awareness amongst regional staff of the potential of support via electronic communication.

As a part of taking a pro-active approach to counselling, the on-line counsellor had initiated a small closed counselling group conference (for discussion of general and course related issues) to include only herself and the six students. She commented in her feedback report that this ‘fell flat’ and had been little used. She observed that instead students were using the larger pre-existing peer group conference (DOORway) for interactive discussion with other students facing similar problems. She indicated that this had still allowed her to assess from their comments in this conference that they were coping. This is an important finding since it might provide a key to developing rapport in terms of human interaction via CMC. There were implications for counselling support that merited further exploration. Although in this study the counsellor had been given access to the DOORway conference, this had been in a purely informal capacity. She occasionally made an informal contribution and could observe the student interactions with each other.
A summary of the types of issue raised by students with the on-line counsellor by private e-mail is presented below. These included:

- problem related to course tutor;
- problem related to need for late submission of work (through illness);
- course choice for subsequent years;
- revision;
- examination related problems;
- technical problems related to computer and software;
- residential Summer School feedback.

Issues picked up by the counsellor from Self Help Group conferences and discussed with the students via private e-mail included:

- examination related problems;
- course withdrawal;
- personal difficulties arising on-line.

The details of the issues raised were only briefly summarised in the counsellor’s record sheets, to which the researcher had access. The reason for this was to preserve the confidentiality of the discussions between student and counsellor. However, it is possible in more general terms to give examples of the types of issues that could arise. For example, it might be that the student was unhappy with the marks awarded for an assignment or comments made by the course tutor. The counsellor would be able to advise on the best way to approach such a difficulty. If a student were ill and so as a result expected to miss the deadline for submission of an assignment, the counsellor might be approached to negotiate an extension on their behalf. Strategies for revision might be suggested (e.g. ways in which to make an assessment of priorities in the material revised). Problems related to examinations might include special provision needed at examination centres or at home (issues such as extra time needed, need to use a word processor and so
on). Although technical problems would not necessarily fall within the expertise of the counsellor, she could advise on the appropriate channel for help and, if requested, liaise on behalf of the student. Issues relating to residential schools could include a need for advance knowledge of facilities available at various campuses and advice on whether attendance was feasible in a particular location taking into account known needs. With the exception of the technical problems and the difficulties of personal interactions on-line, it would appear that these are all similar problems to those that might be raised via traditional communication routes.

The records showed that the counsellor had had more contact with the female students than with the male students. Whilst one of the men had contacted the counsellor with useful feedback about his Summer School experience, none had requested any help with study support during the year. This raises questions about the reasons why they had not made contact. It could be that they had all been coping without need for extra advice; alternatively it is possible that they had been inhibited by the medium of contact, CMC. In fact all three completed their course successfully, two taking the examination and one taking a course that did not include an examination component, which suggested that the former was the case. In a traditional environment, contact with a counsellor would usually be on an occasional ‘point of need’ basis and the fact that the on-line counsellor was not contacted should not be taken to mean that this requirement does not exist or is unimportant. Indeed this is reflected in one of the on-line counsellor’s comments, quoted below:

… ‘Counsellors’ experience with (post first year) students is usually that out of a group of say, 20, they may have significant contact with two, occasional contact with another five and no contact at all with the remainder. Given this comparison, the project students in fact made rather more contact than average. On the evidence of their continuous assessment, those who made no, or little, contact were proceeding appropriately and successfully as independent learners’…

(On-line counsellor, 1996)
Of the three female students, one had developed a good interactive relationship with the counsellor, approaching her for advice on a tutor related problem, regarding course choice for the following year, and on revision tips. One had experienced many problems concerned with setting up the hardware and software, which included complex special equipment provided by the university to address her particular combination of needs. She had also had course related difficulties as a result of her severe health problems, which had necessitated a spell of hospitalisation. This student had had a number of discussions with the on-line counsellor regarding these issues. In the case of the third female student there had been a number of contacts, in some cases initiated by the counsellor in response to messages from the student in the peer group conference and in other open conferences and these had been appreciated by this participant. The first of these three female students successfully completed her course. The second completed the continuous assessment component and was allowed to defer the examination until the following year for health reasons. The third withdrew completely from her course for health related reasons in August. This participant had not consulted the on-line counsellor before withdrawing. The counsellor expressed concern and regret about this as she felt that she might possibly have been able to give advice and/or support which would have enabled the student to continue. In contrast to the male students, all the female students had had specific difficulties for which they felt able to approach the counsellor for advice. In a small sample definitive conclusions cannot be drawn from the apparent gender differences in student - counsellor contact. In a randomly selected sample it may just have been that the male students by chance had less difficulties than the female over the period of the study. However, further investigation is merited to see if similar differences might occur in a larger sample.

Commenting on her overall experience of taking part in the study, the on-line counsellor expressed surprise that she had had relatively little direct contact with the participating
students. On further reflection - speaking from her experience of working as an educational counsellor with a non-disabled group via traditional communication routes - her perception was that they had actually made more contact then average. However, there was no direct comparison with a disabled group working via conventional access methods. Such groups do not usually exist within the Open University support framework. Speaking again in the context of the Open University environment in which the study was taking place, the on-line counsellor went on to put forward a theory that it is possible that students might ‘imprint’ on their Level 1 Course Counsellor and thus develop a relationship which is not easy to reproduce if the counsellor is changed for any reason later. The basis for this argument was that in the foundation year there is much more contact (the counsellor being one and the same as the course tutor and with a much larger number of face-to-face tutorials held during the year). She also commented that students participating in the study appeared to have discriminated intelligently over which counsellor (on-line or regional) they contacted with regard to a particular problem. Possible differences between the types of matters raised by students with the on-line counsellor and those raised by traditional routes was an issue for consideration in the design of the next study in the series, Intervention Study 2 (see Chapter 6.4.3.2).

The counsellor’s feedback about the intelligent discrimination shown by students in which route they chose for counsellor contact was interesting in the light of the student responses to the final ‘key question’ about their experience of taking part in the study set out in Table 5-7.

### Table 5-7
**Student choice of options for educational counselling support**

<table>
<thead>
<tr>
<th>Question: Would you be happy with on-line counselling support in place of counselling from a regional tutor counsellor if it were an option? (on a scale of 1-5 where 1 = 'not happy at all' 3 = 'not sure' and 5 = 'very happy')</th>
<th>No. of students</th>
<th>No. of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very happy</td>
<td>Students (N= 6)</td>
<td>3</td>
</tr>
</tbody>
</table>
Whilst three students said that access to counselling on-line would be an acceptable alternative to counselling from a regional counsellor, three were not sure. Freeform comments from the end of year questionnaire provided some illumination of the reasons for this.

'I have enjoyed a continuing good relationship with my regional counsellor since I joined the University in 1993. She is always pleasant and helpful whenever I have had cause to contact her. Usually she is the one to make contact e.g. when she wants to know what special needs I have for examination arrangements or course aids. Last year (1996) is the first time I have ever had to contact her with a specific problem' (F01)

'**** **** has been my counsellor since I started with the OU. We have built up a very good relationship over that time. He has had the opportunity to observe my physical changes. These points give me confidence in him, and his judgement in any problems I have' (F02)

'Since starting with the OU I have always found my Tutor Counsellor very approachable and always at the end of a phone when needed' (M03)

The participant quotations suggest that a relationship of rapport and continuity of care with their regional Tutor Counsellors had developed over a number of years. It was apparent that this continuity was greatly valued. Such rapport might be more difficult to achieve via the medium of CMC. However, freeform comments relating to contacts with the on-line counsellor via Self Help Group conferences during the study suggested that it might be possible to find ways to develop such a relationship. Two students mentioned the rapport established with the counsellor through her social participation in both the closed DOORway conference and in open conferences. In the second quotation below the term ‘chat’ facility is assumed to refer to contact with the counsellor within the ‘chat’ topic of the peer group conference.

…‘The main advantage of an on-line counsellor, is that one gets to know them; not only in a professional capacity, but also in a ‘social’ sense because of the conferencing medium’…. (F01)
…‘This is more accessible than using the telephone and through the “chat” facility a better rapport is built up as there is ongoing communication rather than isolated phone calls during the year’… (M02)

These comments show that the informal contact with the on-line counsellor had been valued and suggest that rapport had been developed in this way. The comments of M02 are interesting in another respect in that they suggest that continuity of contact over the academic year had been an important factor in the building of rapport. At this time the Open University was about to change to a new method of providing regional counselling services on a “consultancy” basis via a “Student Support Centre” within each regional centre. Instead of access to a part time Tutor Counsellor working from home students would have access to a duty counsellor based at the Regional Centre on a “point of need” basis. Removing the personal element of the counselling relationship in this way might lead to difficulties for students with special needs. The availability of access to a personal counsellor via CMC might provide a way in which such individual support could be made available. Ways in which rapport might be built when using text based CMC was a subject for reflection and is discussed in Section 5.5. At the end of the study the six students were offered the opportunity to continue to participate in the main study, Intervention Study 2, in the following year. All six accepted the invitation to do so.

The following section considers the results relating to the use of other facilities available to the participants in the environment of the “Virtual Campus”.
5.4.3 CMC: Usage of facilities available on the ‘Virtual Campus’

This section presents a broad summary of the ways in which the available services on the ‘Virtual Campus’ were used during the course of the study, followed by an examination of the students’ prior and post-participation statements.

5.4.3.1 Student usage of facilities available on the ‘Virtual Campus’

Students were asked to rate the usefulness of a number of different possible uses of the conferencing system (on a self-help basis) on a continuum scale of 1 - 5 where ‘5’ = ‘very useful’ and ‘1’ = ‘not useful’. A rating of ‘3’ or more suggested that the facility was regarded as useful. The possible uses included one to one e-mail; participation in a closed peer group conference; course based Self Help Groups; Special Interest Groups and informal chat conferences. A complete breakdown of the data from the mid-session and end of year questionnaires is given in Appendix B5. A précis is presented in Table 5-8.

<table>
<thead>
<tr>
<th>Type of contact</th>
<th>Usefulness scale</th>
<th>No. of students (N=6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer group conference (DOORway)</td>
<td>5 3-4</td>
<td>4 2</td>
</tr>
<tr>
<td>E-mail</td>
<td>5 3-4</td>
<td>3 3</td>
</tr>
<tr>
<td>Special Interest Groups</td>
<td>5 3-4</td>
<td>2 4</td>
</tr>
<tr>
<td>Course based Self Help Groups (SHG’s)</td>
<td>5 3-4</td>
<td>2 2</td>
</tr>
<tr>
<td>None joined</td>
<td></td>
<td>2 2</td>
</tr>
<tr>
<td>Informal Chat Conferences</td>
<td>5 3-4</td>
<td>2 1</td>
</tr>
<tr>
<td>None joined</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
The summary presented in Table 5-8 gives the ratings of usefulness ranked in order from
the highest rating by the greatest number of students to the least number of students for
facilities available on the ‘Virtual Campus’. For the purpose of the investigation, Self Help
Groups (SHGs) have been categorised into those concerned with supporting a particular
course, a closed peer group conference, Special Interest Groups (SIGs) of various kinds
and informal ‘chat’ conferences, these last being the equivalent of the campus ‘bar’ or
‘coffee bar’. Students were free to choose which Self Help Groups they joined or initiated,
and whether they participated actively by contributing messages or just read the messages
input by others. (The term ‘lurk’ used in Table 1, Appendix B5 is common parlance for the
passive reading of messages). New mail and conference messages would be downloaded
and automatically organised into the off-line mailbox and appropriate conference topics by
the Wigwam off-line reader. They could then be read at leisure (and replied to if desired).
Each of the students was joined to a closed disability peer group conference (DOORway -
see Debenham 1996b). One-to-one communication was available via e-mail for contact
with the on-line counsellor and other individual users of the system.

The complete breakdown of this set of data (presented in Table 1, Appendix B5) reveals
that a change did occur over the course of the year with more of the group having entered
into the different types of conference as the year progressed, and levels of satisfaction
fluctuating slightly. Where no course related Self Help Group had been joined this was
because none was available. What remained constant was that the satisfaction ratings
remained at ‘3’ or over for each category with only one exception, this being that one
student had rated the use of e-mail at ‘1’ mid-session. By the end of the year all ratings for
e-mail were greater than ‘3’. These results suggested that participants had found the
facilities useful. It was premised that in the case of the student who had allocated a rating
of ‘1’ to e-mail mid year, greater familiarity with the system over time had improved
confidence to use the facility and therefore its perceived usefulness. It was notable that the
highest ratings of usefulness for the whole group were given to access to the peer group conference (whether active participation or passive reading).

5.4.3.2 Student prior and post-participation statements

At the beginning of the study, the six students were asked to give a short summary in their own words of their prior expectations of using CMC for on-line counselling and peer group support via SHGs. This would avoid the possibility of hindsight bias. At the end of the study they were asked for post-participation statements of how they felt that their expectations had been fulfilled or had changed. The factors identified from the pre-participation statements which students cited as important reasons that had influenced their decision to participate can be grouped into two categories, study and social as set out in Table 5-9.

<table>
<thead>
<tr>
<th>Study</th>
<th>No. of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy access to counselling support</td>
<td>3</td>
</tr>
<tr>
<td>Use of the medium as a substitute for tutorials via Self Help Groups</td>
<td>2</td>
</tr>
<tr>
<td>Fast and easy access to library databases</td>
<td>1</td>
</tr>
</tbody>
</table>

| Social                                                                |                 |
| Relief of isolation as a result of disability; in particular contact with other students and staff (including on-line counsellor) | 6               |

These identified expectations suggest that the expressed desire for contact with staff and fellow students might have been a factor in motivating students to log on to access the ‘Virtual Campus’.
At the end of the year, students were asked to summarise in their own words what benefits (if any) they felt they had gained from the use of CMC to support their studies over the course of the year and if there were ways in which they felt it might be improved. The answers given are quoted anonymously below.

…’CMC has greatly reduced my sense of isolation. I have been able to meet new people and make new friends; … … My confidence in ‘meeting’ other people has been considerably raised. I love not being patronised by well meaning people and enjoy being accepted for my abilities without attention being concentrated on my disabilities. I regularly have difficulty sleeping and find that ‘logging on’ in the middle of the night and being able to ‘talk’ to others relieves the depression I had to endure in the past. The Virtual Campus also helps to make me feel that I am an active member of the University as a whole. As someone else once said, “It takes the distance out of distance learning” ‘… (F01)

…’Although it was unfortunate that I had to give up my studies part-way though the year, knowing that the support was available was invaluable. Also, access to OU libraries and information was excellent’ … (F03)

…’I very much benefited. Shame continuity was lacking, both on my part and other users, but don’t see how that can be overcome. CMC will always be limited/superficial unless everyone is ‘forced’ to use it and regularly (unlikely ever to happen in a democracy!)’…(M01)

…’After a shaky start I enjoyed using CoSy and interacting with other students. As a non-technical person, I found it relatively easy. I would prefer to be able to use the system to support the course more. Such as a bulletin board with topical information on the appropriate course. Overall I have gained in interacting with others’ …(M02)

…’As I can’t attend tutorials or self help groups, I found the ******* conference a very useful tool last year. Being able to communicate with other students in the same situation as myself was reassuring for me. As a follow on from CoSy, the students I met at Summer School and I used the Internet to communicate in the later parts of the year. There is no doubt that this is very useful to students like me and probably all other students too.’… (M03)

These responses are considered below in relation to the barriers to study identified by the Exploratory Study to see whether CMC had provided a useful way to address them.
The social contact with staff and students to relieve isolation through the inability to attend tutorials and residential schools for reasons of disability was given a high priority by all six students at the beginning of the study. The answers of the five students who made post participation statements show that this expectation had been fulfilled. This finding relates to the barrier of isolation identified in the Exploratory Study. It suggests that the use of computer conferencing as the medium of contact had provided a way to alleviate this barrier. The comment of student F01 is interesting in relation to barriers of attitude (identified by Roulstone 1994 - see Chapter 2.2.2). Her comments suggest that, for her, CMC had proved to be an equalising medium of communicating with other non-disabled students. The comment of student M03 that he had felt reassured by contact with others in a similar situation reflects the high value assigned to contact with other students with disabilities in the peer group conference (see Table 5-10). Again this relates to the perceived barrier of isolation previously experienced. Student F01’s comments on her difficulty in sleeping are related to the barrier of fatigue identified in the earlier study. People with long-term health problems often experience fluctuating levels of pain and fatigue associated with their condition. Use of CMC had enabled this student to communicate at a time convenient to her (the middle of the night) without feeling that she would be disturbing others by doing so.

In connection with the study factors identified as important, both of the students who had cited the use of the medium for Self Help Groups to compensate for non-tutorial attendance in their prior statements again mentioned this at the end of the study. One had found a SHG for his course and found it to be useful; the other had not found one, but said that he would like to make more use of the system for course support. These facts are also pertinent to course support for non-disabled students as they deal with isolation that can occur for reasons other than disability. The access to on-line counselling support was not
specifically mentioned in the end of year statements, though one student commented ‘knowing that the support was available was invaluable’. This possibly reflects the fact that the issue of counselling had been comprehensively addressed in a different section of the questionnaire (see Section 5.4.2). The student who had cited access to library databases as important in the prior statement commented at the end of the year that access to this facility had been excellent. This is related to both the issues of isolation and fatigue in another way. Students who suffer from health difficulties often find visiting conventional libraries difficult. This is connected with both the barrier of fatigue when travelling to and fro, and access related problems that may be encountered on the journey and in the building itself. For these reasons access to library facilities on-line might prove beneficial.

In the end of year questionnaire students were also asked to give a rating on a continuum scale of 1-5 (where ‘1’ = little help and ‘5’ = helps greatly) to six possible ways in which CMC might be considered advantageous to support the studies of students with disabilities. A rating of ‘3’ or more on the scale suggests that the use of the medium was considered beneficial. These questions were related to issues identified as important by the findings of the Exploratory Study. A summary of the answers is given in Table 5-10 (see page 200).

The table shows that all six of the students rated the use of CMC to reduce isolation at ‘5’ on the scale. This high rating convincingly suggests that it had proved very effective in this respect. The question relating to access to course based Self Help Groups was also connected with the issue of isolation in the study process. The fact that all six participants gave a rating of ‘3’ or more when assessing the value of access to others taking the same course to compensate for inability to attend tutorials was again encouraging. Five of the six gave access to the peer group conference the highest rating of ‘5’. Here again the
inference is that access to others in a similar situation had proved beneficial in relation to the barrier of isolation.

Additionally Table 5-10 shows that high ratings were also given to the ability to communicate at any time of day or night. This finding is related to the barrier of fatigue and fluctuating energy levels. It provided a clue to be followed up in the later studies concerning the value of CMC for communication with an educational counsellor relating to the issue of timing of contact, particularly when compared with using the telephone. The high rating assigned to use of a keyboard to prepare messages off-line reflects the barrier of difficulties experienced with handwriting and dexterity identified by the earlier study.

<table>
<thead>
<tr>
<th>Questions asked in end of year questionnaire</th>
<th>Scale 1 - 5</th>
<th>No. of students (N=6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issues related to specific course study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course based Self Help Groups compensate for inability to attend tutorials</td>
<td>5, 4, 3</td>
<td>2, 2, 2</td>
</tr>
<tr>
<td>Enables fast and easy sharing of information with fellow students in course based conferences</td>
<td>5, 4</td>
<td>3, 3</td>
</tr>
<tr>
<td>Social issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduces isolation by allowing easy contact with other students</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Issues related to disability problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(This question also relates to social issues)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enables fast and easy sharing of useful information with other peer group (DOORway) conference group members</td>
<td>5, 4</td>
<td>5, 1</td>
</tr>
<tr>
<td>Enables communication to be received and sent at any convenient time of day or night</td>
<td>5, 3</td>
<td>5, 1</td>
</tr>
<tr>
<td>Use of keyboard to pre-prepare messages off-line enables students to work at own pace</td>
<td>5, 4</td>
<td>5, 1</td>
</tr>
</tbody>
</table>
The overall impression from these results was that students had used their access to the ‘Virtual Campus’ fairly regularly (ranging between more than once a day in two cases and every few days in the other four) and had benefited in a number of different ways. The conferences joined had varied between students, the emphasis having depended on their particular interests and personalities. It appeared that many of the expectations held by the students at the beginning of the trial had been fulfilled, notably in the holistic sense of support for their studies engendered by contact with staff and students on the ‘Virtual Campus’.

5.5 Reflection

The findings from this study suggest that the students who had used the counsellor’s services had in the main been happy with the help they received. No specific problems were reported. Although three of the students said that they would be happy to have access to counselling services on-line to replace access to a regional counsellor, the other three were not sure. A key finding arising from student freeform comments suggested that the reason for their uncertainty was a social one rather than a direct result of the medium used for communication (CMC). The students reported having valued the continuity of care and personal rapport built up over a period of time with their regional counsellors and it was this relationship that they were reluctant to lose. This highlights an important issue in relation to student support. Thorpe (1986) asserts that the human dimension is of crucial importance in the study process.

…’What we are saying is that the human dimension of students’ experience of studying with the University is crucially important fostering a sense of identity with the University the opposite of which might be alienation from the University. We have discovered that students speak very directly about their need for high quality personal contact and of the central role tuition has within a network of
Holmberg (1991) proposes a theoretical approach that personal relations and empathy between those representing the supporting organisation and students for learning and teaching are important.

... ‘Feelings of empathy and belonging can be developed in the learning process independently of any face to face contact with tutors. They are conveyed by students being engaged in decision making by lucid, problem oriented, conversation like presentations of learning matter, that may be anchored in existing knowledge; by friendly non-contiguous interaction between students and tutors, counsellors and other staff in the supporting organisation; and by liberal organisational administrative structures and processes. ’ (Holmberg, 1991 p 45)

Such an approach was very relevant when considering the potential value of CMC to develop a relationship of rapport in order to facilitate this type of contact.

Important new research questions were raised in the light of these findings. If rapport was important to client-counsellor interaction in a distance-learning environment, how might such a relationship be developed using the medium of CMC in a way that respects student autonomy? Might such a relationship be of particular importance in the case of students with special needs - in this instance those with long-term health problems? The students’ comments on the value of getting to know the counsellor by means of her social participation in the Self Help Group conferences on the ‘Virtual Campus’ provided a clue to a possible way forward. Ways in which this issue might be best approached were considered for incorporation into the design of the next study.

The nature of issues raised by participants with an on-line counsellor when compared to those raised with a counsellor via traditional routes was another area to be addressed.
Were they similar or different? What kinds of issues might be appropriate to be addressed via CMC?

In the context of the *Autonomy* approach adopted, the holistic effects of the combination of supporting measures (mostly Self Help Groups) available within the environment of the ‘Virtual Campus’ on the study process for this group deserved further exploration. This included the possibility that logging on regularly to use these other facilities might have an effect on student willingness to use the medium to contact an educational counsellor. The students in the pilot study had persevered with difficulties encountered in setting up the hardware and software in order to participate, which indicated a high level of motivation. It appeared that they had variously used a number of channels available to them, depending on their individual personalities. It was exciting to see signs that Frost’s (1991) finding that ‘involved students are more likely to be academically and socially integrated into the college community’ - in that case a ‘real’ campus - appeared also to apply within a ‘virtual’ community of distance learners in geographically widespread locations. An important question in the main study would be to consider whether access to the range of facilities offered (in particular the services of an educational counsellor on-line) would have any effects on student autonomy, motivation, and enjoyment of their studies (see Chapter 6 Table 6-12).

The results suggested that the use of an off-line reader facility had been considered important, for reasons of minimising phone costs and enabling students to work at their own pace and at times convenient to them. Kaye (1989) suggested that the potential of CMC as a learning tool would only become fully realised when a student has become familiar with the medium and able to participate in CMC discourse as transparently as in more familiar modes. In the case of the present research, it was premised that participants had developed some fluency in using the medium regularly across the spectrum of options.
available on the ‘Virtual Campus’ during the 1996 pilot study. This might prove a factor in encouraging student choice of this route for making contact with an educational counsellor in the period of Intervention Study 2.

**Summary**

Students participating in this study reported perceived benefits from the experience of access to the ‘Virtual Campus’ to support their studies and from their social interaction with their fellow students and staff. The technical difficulties of setting up had not proved insuperable and once up and running students had found the system in the main reliable and user friendly. The results suggested that the students who had used the counsellor’s services had been happy with the help received, but nevertheless half the participants were reluctant to relinquish the personal relationship built up over time with their regional counsellors. The fact that all six students wished to continue to participate in the next study of the series highlights the fact that they felt there were gains to be made from the experience of contact with others via the ‘Virtual Campus’. To address autonomy by finding or connection to an appropriate source of help, one has to build some kind of rapport with that human help on-line. This is new experience for most people. This raises the question of how such a relationship might be achieved. Reflection on this issue resulted in the formulation of an important new research question, to be addressed in the next study of the series, Intervention Study 2:

- “How might personal rapport between educational counsellor and student be developed via the medium of CMC?”

The new study was planned to run over the period of the 1997 academic year. The six students from 1996 all wished to continue to participate. A further seven students
(experienced in the use of CMC) were recruited to join them. This study, the main study of the series, is described in Chapter 6.
Chapter 6: Intervention Study 2

6.1 Introduction

This chapter reports on the results of the main study of the series of investigations, and this is termed Intervention Study 2. The work undertaken built on the findings of the earlier CMC feasibility study, Intervention Study 1. The research questions included both those addressed by that study and an important new research question that emerged from the findings. This was:

- “How might a relationship of personal rapport between educational counsellor and student(s) be developed via the medium of CMC?”

Following a period of reflection on ways in which rapport might be established, modifications were made to the design of the CMC support environment to be implemented in this study. A novel mode of access to a counsellor’s services was provided, which introduced a group dimension into the process (see Chapter 3.5.3, Fig. 3.1). Participants could now (if they so chose) consult the counsellor in a counselling topic within the confidential environment of the peer group conference area, DOORway as well as by one-to-one e-mail. This provision of a counsellor-controlled topic where advice could be sought and given was designed to maintain the distinct professional relationship between counsellor and students. At the same time, welcoming the counsellor as a guest in the student-controlled topics would provide a way to ‘break the ice’ in terms of their getting to know her on a more informal basis. The aim was to promote confidence for students to approach the counsellor for help/advice when necessary. This could be either in her conference area or privately by one-to-one e-mail.
6.1.1 Changes in the environment of the study

Changes in provision in both the Open University data communications network and the general educational counselling services of that institution in 1997 meant that the environment of the study would differ in some important respects from that of Intervention Study 1. These changes are outlined below.

Computer conferencing provision

In the case of the data communications network, the computer conferencing software used to access the ‘Virtual Campus’ had been changed from CoSy4/Wigwam to SoftArc’s FirstClass. FirstClass had already been in use to support a few individual courses on-line in previous years and in 1997 was adopted as the main conferencing medium for general use within the university. In this year the number of users of the FirstClass system within the university was projected to reach around 15,000. At the time of Intervention Study 1 in 1996 there had been about 5,000 users on the CoSy4/Wigwam network. In 1997 there would therefore be a major change in the size of the user base of the ‘Virtual Campus’.

FirstClass utilises an icon based graphical user interface (GUI), quite different in operation from the completely text based system of CoSy4/Wigwam. In many ways FirstClass may be considered more versatile and easy to operate. However, it was known that the use of GUIs could present difficulties for those with visual impairments (see Vincent 1995; Karshmer 1996). Another potential problem for the participants in the study was the fact that FirstClass Personal, SoftArc’s off-line reader software, required the use of a computer that was capable of supporting the Microsoft Windows 95 operating system. It initially appeared that those whose computers would not run this software would have no option but to work on-line. Since the importance of the use of an off-line reader had been
identified by the earlier study as an important factor in their usage of the network for this group, this raised a potential problem for the 1997 study. The effect of the new software on participation was therefore a further factor to be monitored.

Whilst a number of courses were to be formally supported electronically in tutor-led closed course conferences on FirstClass, in 1997 there were changes to the permitted uses of the system for Self Help Group usage. In 1996, on CoSy4/Wigwam it had been possible for any student to set up a Self Help Group (SHG) for him/herself without restriction, either as an open or closed conference. In 1997, on FirstClass this privilege was no longer available. As a result of student discussions, at the beginning of that year the Open University Students Association (OUSA) negotiated the establishment of a Self Help Group area on the ‘Virtual Campus’ with the university. This was to provide an area for all types of SHGs (course based SHGs, Special Interest Groups (SIGs), university societies etc.), to be managed under the auspices of OUSA. Under these arrangements (still operational in 2001) a request conference is provided in which any student with access to the ‘Virtual Campus’ may ask for a new SHG to be opened. The request is considered and, if approved, the OUSA administrator opens a new conference and appoints a moderator (usually a student volunteer) as Chair of the conference. The moderator assumes similar responsibilities to those of the Chair of a conventional meeting and additionally is allocated the necessary ‘permissions’ to delete any messages that contravene published code of conduct of the university. Guidance for new moderators is provided in a special conference for this purpose.

Educational counselling services

As described in Chapter 2.4.3, the role of an Educational Counsellor in the Open University UK (the institutional environment of the study) is based on a developmental
view of counselling/advising, which aims to encourage the personal development and
progress of the learner as a whole person (Bailey, Brown et al. 1996). Although the
activities involved in the role of an educational counsellor did not in themselves change
fundamentally, there were changes in the mode of provision in 1997, which meant that the
environment of Intervention Study 2 would differ from that of the earlier studies. These
changes are described below.

With the exception of those entering at Level 1, students new to the university were no
longer allocated to a personal Tutor Counsellor, as had been the case in the past.
Continuing students were permitted to retain their existing links if they wished to do so.
However, if a student moved to a different region or if his/her Tutor Counsellor either
moved or left the university, the new arrangements would apply. In these new
circumstances students entering study at Level 1 continued to be allocated to a personal
Tutor Counsellor, but for those entering at Level 2 or higher provision changed. Instead
(with effect from 1997) advice would be available on request from a Student Advisor
based at a Student Support Centre within each Regional Centre of the university. This is
the system still in use in 2001. Complex queries are referred to a Senior Counsellor in the
Regional Centre. Again the most usual medium of contact is by telephone. Although all
the participants in the study were continuing students, it was possible that some might no
longer have access to an individual regional counsellor in 1997. In such cases, the on-line
counsellor could provide an alternative way in which to maintain an individual link with
the university for study support.

Intervention Study 1 investigated whether the introduction of CMC access to an on-line
counsellor might help for information and/or advice and by permitting the counsellor to act
as a channel of liaison between the institution and the student when special needs arose.
This concept was influenced by the type of provision described by Newell and Walker
(1991) – see Chapter 2.2.4. The use of CMC as the channel of contact might enable such an individual service to be made available to a widely dispersed group of distance learners. The potentially equalising nature of the medium might result in an improvement in the quality of communication between students and counsellor. In turn this might have a beneficial effect on the perceived levels of student motivation, autonomy and enjoyment of the study process.

Summary

In 1997 there were considerable changes in the environment in which Intervention Study 2 was to take place. Traditional regional counselling provision was changing. The ‘Virtual Campus’ was about to become much larger, the communications software operated in a radically different way from the previous study. Also a greater degree of control was to be exercised by the university over permitted usage. The effects of all these changes would need to be taken into account in the evaluation of the data from the main study.

Section 6.2 sets out the aims of the study. Section 6.3 describes the process of implementation, including configuration of the hardware and software, the composition and distribution of the sample, the role of the educational counsellor and methods of data collection. In Section 6.4 the results are presented and in Section 6.5 the findings are discussed. Section 6.6 reflects on the findings that led to the design of the final phase of the research, the set of personal interviews which completed the main study.

6.2 Aims of the study

As described in Section 6.1, the research questions addressed in this study included both those of Intervention Study 1 and an important new question that arose from the results of
that study. The latter was concerned with the development of personal rapport between counsellor and student to establish trust for the student to feel confident enough to seek help from the counsellor. Thus the new question here was:

- “How might a relationship of personal rapport between educational counsellor and student(s) be developed via the medium of CMC?”

This question was considered in conjunction with the research questions from Intervention Study 1. These were:

- “What are the perceived effects for students of access to the services of an educational counsellor available on a ‘Virtual Campus’?”

- “What are the perceived effects on the study process of access to other facilities available on a ‘Virtual Campus’?”

These questions related to the perceived effects for students of access to the above facilities, with a particular focus on the four barriers to study, identified by the Exploratory Study. To recapitulate, these were fatigue, difficulties of handwriting, isolation, and a need for improved interactive contact with support agencies.

### 6.3 Implementation of the study

This section describes the implementation of the study, beginning in Section 6.3.1 with the process of setting up the hardware and software to support access to the ‘Virtual Campus’. Section 6.3.2 describes the composition of the sample and Section 6.3.3 the role of the educational counsellor. Section 6.3.4 describes issues concerning the peer group conference. Finally, Section 6.3.5 presents details of the methods of data collection used.
6.3.1 Configuration of hardware and software

US Robotics 28,800 modems were already in use by the six students who had taken part in the 1996 study. Similar loan modems were offered to the seven students new to the study. Loan modems were issued to four of these students. Three students already had access to a suitable modem and did not need one. Support with setting up the software (SoftArc’s FirstClass) was available when required from the Academic Computing Service (ACS) help desk of the university, and from the researcher by telephone.

As described in Section 6.1.1, the software in use to support the conferencing environment in 1997 had changed from Cosy4/Wigwam to SoftArc’s FirstClass. A potential problem was raised by the fact that FirstClass Personal, SoftArc’s off-line reader (scheduled to be introduced early in the academic year), required the use of a computer that supported the Microsoft Windows ’95 operating system. Some of the participants had computers that used Windows 3.1 and did not have the capability to be upgraded to Windows ’95. This could have meant that they had no option but to work on-line, with consequent high telephone costs. In the event, nine participants managed to obtain access to computers that would run Windows ’95. A further two using Windows 3.1 were able to download and use ‘Off Road’ (a shareware off-line reader), and two began the year working on-line. Of these last two, one was using the Graphical User Interface (GUI) and one a Command Line User Interface (CLUI), developed internally in the university. At the beginning of the study this latter student was using an old computer with a DOS based operating system. Later in the period of the study he upgraded to a Pentium PC that supported FirstClass Personal.

Participants were provided with access to a conference environment (DOORway) on the ‘Virtual Campus’, open only to named participants. This comprised two areas. These
were: (i) a set of peer group conferences, led by a student moderator (one of the participants from Intervention Study 1), and (ii) a new facility introduced in this study, a counselling topic, led by an educational counsellor. (See Chapter 3.5.3 for a description of the design and rationale of this provision) Figure 6-1 shows a mock-up of the DOORway desktop as it appeared on the computer screen of each member of the conference during the period of the main study. On the screen the icons appear in colour.

**Fig 6-1: The DOORway Desktop**

*Introducing an interactive group dimension to personal educational counselling on-line*

<table>
<thead>
<tr>
<th>Doorway</th>
<th>Conference</th>
<th>15 files</th>
<th>6 Folders</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>doorways discussion</td>
<td>doorways chat</td>
<td>doorways introductions</td>
</tr>
<tr>
<td></td>
<td>doorways medical</td>
<td>doorways counselling</td>
<td>doorways technical</td>
</tr>
</tbody>
</table>

Figure 6-1 shows the icons for the five student-led topics and one counsellor-led topic within the closed conference area. There was also an ‘information’ topic accessed via the main DOORway icon. This latter topic had ‘write’ permissions for the moderator and researcher only and was ‘read only’ for all other participants. Its purpose was to enable the formal dissemination of information to the group.
6.3.2 Composition and distribution of the sample

As described in Chapter 3.5.3, the sample comprised the six continuing students from the pilot study (Intervention Study 1) and a further seven students recruited to join them. One of the original six who had withdrawn from her course part way through 1996 was registered for 1997, but was not able to study for health reasons. She nevertheless asked to be allowed to continue to participate in the research study. The reason for this was primarily to have access to advice for her future studies and also to relieve her isolation and maintain motivation by contact with fellow students via the network. As discussed in Chapter 3.5.3, the whole sample suffered from severe health problems of several types. With the addition of the new participants, the geographical distribution of the sample was more widespread across the UK than had been the case in Intervention Study 1. The participants came from seven of the thirteen Open University regions. The distribution is shown on an outline map of the UK in Figure 6-2 below.

Figure 6-2
Geographical distribution of sample in the UK
The map presents a graphic illustration of the potential advantage of the use of CMC for access to a specialist counsellor. Using this route one counsellor would be able to provide a service for a group of students living far distant both from her and from each other. Using this method might be an efficient way to provide access to a scarce resource – that of an educational counsellor well versed in special needs.

6.3.3 **New responsibilities of the on-line Educational Counsellor**

A new educational counsellor was recruited to provide the on-line service since the staff member for the earlier study was not available. She was a novice in the use of computer conferencing, but had used e-mail for contact with colleagues. However, she had extensive experience in the area of special needs provision. Her remit with respect to this project was similar to that of the counsellor in Intervention Study 1, with the added dimension of taking part in the group discussion forum (illustrated in Chapter 3.5.3 Figure 3-1). The counsellor was in charge of the discussions only within the counselling topic. This forum provided an opportunity for students to raise issues with her that they felt were relevant to the whole group within a confidential environment. It would facilitate both ‘one to many’ and ‘many to many’ interactive discussions. Secondly, the counsellor was encouraged by the researcher to participate informally in the other five student-led topics of the conference as their guest. These were moderated by a student, one of those who had participated in Intervention Study 1. The intention here was to promote the building of rapport by providing an environment for relaxed interaction. The aim was to explore whether this might result in increased confidence to approach the counsellor for help/advice when necessary, either in her conference area or privately by one-to-one e-mail.
6.3.4 The peer group conference

At the beginning of the year there were about twenty members of DOORway. All had been existing members in the previous year. The conference was smaller in size than in the earlier year. In 1996 there had been about thirty participants, all of whom were offered continuation of their access to this conference area on FirstClass in 1997. However, about ten did not migrate from Cosy4/Wigwam to the new system. One reason for this may have been the fact that a more powerful computer was required to run the Windows '95 operating system that supported FirstClass Personal (the off-line reader for FirstClass) than had been necessary for CoSy4/Wigwam. This posed a considerable difficulty. Not all of the students were in a position to be able to upgrade their equipment to meet this requirement. Only the thirteen students taking part in the counselling trial had access to the services of the on-line counsellor via one to one e-mail. However, the other conference members were free to read and contribute to group discussion in all the topics (including the counselling topic) if they wished.

6.3.5 Methods of data collection

The methods of data collection chosen are outlined in Chapter 3.5.3. To summarise, these included:

- three student questionnaires issued at intervals during the year. The design of these questionnaires (modified to take into account the findings of the earlier study) is detailed in the following section. Copies are appended as Appendices C1, C2, C3;

- prior and post participation statements obtained from the counsellor. The researcher provided an open-ended framework of questions for the counsellor at
the end of the year as an aid for reflection in this connection. A copy of this framework is appended as Appendix C5;

- electronically held record sheets held by the on-line counsellor for each student on which she noted summary information of the date and nature of the enquiry and action taken (Appendix C4);

- summary data of the number of messages posted in each of the conference topics collated by the researcher.

The purpose and content of the student questionnaires are detailed below.

**Student pre-participation questionnaire (Intervention Study 2)**

In the case of the new sample, the purpose of this questionnaire was fourfold:

(i) to see how easy or difficult it had been to set up the hardware and software in order to gain access to the FirstClass ‘Virtual Campus’. As for the previous study, this was of particular importance given that this was a group of students with varying degrees of disability. Some might experience physical difficulties with setting up equipment;

(ii) to obtain a prior statement of expectations in respect of access to the services of an on-line counsellor. This would be useful in assessing outcomes when compared with reported experience at the end of the study. It would help to eliminate hindsight bias;

(iii) to provide information for the counsellor on participants likely special needs for the year;
(iv) to gain information about the new sample’s experience of participation in the various available facilities (mainly self help) on the Cosy4/Wigwam ‘Virtual Campus’ during 1996. This would provide a basis to compare any possible differences between the experience of these new participants and that of the students who had taken part in Intervention Study 1, who had additionally had access to an educational counsellor on-line in that year.

The pre-questionnaire for the continuing students consisted only of the section relating to setting up the hardware and software to access FirstClass. They were not asked to complete the other sections as they had already answered questions relating to their prior expectations of on-line counselling, special needs and experience of the CoSy4/Wigwam ‘Virtual Campus’ in the earlier study. It was considered that asking these questions again would be repetitious.

**Student mid-session questionnaire (Intervention Study 2)**

As in the earlier study, a mid-session questionnaire was issued to students via e-mail, firstly to monitor their usage of counsellor services, and other facilities; secondly to gauge the amount of systems usage and thirdly to monitor any unexpected developments.

**Student end of year questionnaire (Intervention Study 2)**

The questions asked in the post-participation questionnaire were considerably modified from those of Intervention Study 1 to take account of the findings from that study, in particular with regard to the effects of CMC as the medium of contact. A copy is to be found as Appendix C3. Questions were included to explore the effects of the new group element of the study for counselling support. The questionnaire was issued to the whole sample at the end of the academic year. It came in four sections, which asked about:
• a number of aspects of contact with: (i) the on-line counsellor both via e-mail and in the peer group support conference, (ii) regional Tutor Counsellors (where assigned), and (iii) regional Student Services;

• technical issues of setting up the hardware and software and using the Open University data communications network during the period of the study;

• experience of using computer conferencing for the following: (i) one to one e-mail and mailing lists, (ii) the peer group conference and (iii) other SHGs of various kinds;

• overall experience of taking part in the study, including:
  - questions about any changes in levels of motivation, autonomy and enjoyment of the study process
  - a post-participation statement in their own words about their experience.

As described in Chapter 3.5.3, the questionnaires were issued both in the form of hard copies by post and electronically as appended files in Word 6 for Windows '95. Students could choose which method of completion they used. As the students provided their own computers, the word processing software used was not standardised. The alternative option of a file in Word Perfect or an earlier version of Word was offered if requested. Five of the students chose to complete using word processing, six completed the hard copy by hand and one dictated his answers to a helper who completed the hard copy on his behalf. The remaining student withdrew early without completing any of the questionnaires. The results of the study are presented in the following section.
6.4 Results

As in Intervention Study 1, the results relating to technical issues concerned with access to the network are explored first. Secondly the data collated from the pre-questionnaires is considered in respect of known disability related difficulties and associated special needs. With the permission of the participants, this information was made available to the educational counsellor at the beginning of the study so that she would be aware in advance of likely needs. The results presented here provided background information that was helpful in assessing the effects of the facilities provided during the course of the study. Thirdly, the main body of results covering the effects of access to an educational counsellor on-line on the study process are considered. Finally, the use made of the range of various facilities available on the ‘Virtual Campus’ is discussed.

6.4.1 CMC: Technical issues

In the following sub-sections the technical aspects involved in setting up and using the new communications software are discussed. This includes the difficulties encountered whilst setting up, use of the off-line reader, how easy and reliable students found the software during the year and how frequently participants had accessed the ‘Virtual Campus’.

6.4.1.1 Setting up of hardware and software

In this main study the whole sample (N = 13) was drawn from existing users of the CoSy4/Wigwam conferencing system in 1996. They were therefore already familiar with the process of loading software, configuring settings and connecting via a modem to a data-communications network. In the earlier study the six participants had been complete novices in the use of CMC and had needed a greater level of help and support from the
researcher and help desk than was anticipated would be the case during the main study. The sample new to the on-line counselling study in 1997 had set up and accessed the system without formal help in the previous year on a self-help basis. It was assumed that they were therefore likely to be relatively self-reliant in this respect - or to have their own good sources of technical help available to them.

The pre-questionnaire of this study asked questions of the whole sample relating to the experience of setting up the new FirstClass software to see if any different problems had arisen compared with those of the earlier study. The area considered likely to produce most difficulty was in setting up the off-line reader since this involved a quite complex sequence of operations to be performed whilst on-line using a GUI. For students with visual impairment and dexterity problems this might not have proved easy. A full table giving summarised details for each student of the time taken for set up, type of access used and problems encountered with hardware and software is provided in Appendix C6, Table 1.

In summary, six students out of thirteen (almost half the sample) had a set up time of two hours or less; two took four hours and a further two about one day. One student (detailed below) took much longer. The data was missing in the case of two others who nevertheless made it on-line. Therefore more than three quarters of the sample had completed the set up process within a day. For students with health problems, including such difficulties as visual impairment and lack of manual dexterity, this is considered to be acceptable, though not ideal. For students who are fit, taking this length of time would probably be considered unacceptable. In the earlier study, four students had set up within a day; two took longer. In that study the majority of the sample had needed help with set up from a variety of sources, including the Academic Computing Service (ACS) help desk, local computer firms, technically literate family members and the researcher. In
Intervention Study 2 the results showed that the majority of students appeared to have managed the set up process with rather less help than before. There was one notable exception, this being a very severely disabled student, one of the continuing students. This student had a number of different special needs relating to her medical conditions that made setting up the equipment a very complex operation. The special equipment was loaned to her by the university. Additionally she received a great deal of help and support from the technical expert in special needs attached to the Office for Students with Disabilities. At least two visits were arranged. It was unfortunate that despite her tenacity and enormous determination to succeed, her health deteriorated to the point where she was finally not able to continue. She withdrew from her studies in June 1997 having only once managed to connect briefly to the system independently.

Of the twelve students remaining in the study at mid-year, the results suggest that eight had found the new software very easy and reliable to use, three students had found it reasonably reliable and one rather less so. Three students had experienced problems with setting up the software to access the system; two had found it unreliable in terms of crashes at the university end of the system. In two cases the reasons for problems encountered during the set up process were concerned with difficulty in following the instructions provided. In the third case there had been problems with the modem not interacting correctly with the software. It is not clear whether the difficulty following instructions occurred due to problems specifically related to disability (e.g. visual impairment) or if there might be a more general case for more detailed step by step documentation. One student commented that the software was too complicated for the purpose for which it was intended. This issue and that of difficulties encountered in setting up the software merit further investigation.
6.4.1.2 Off-line reader

The results of Intervention Study 1 had shown that the use of an off-line reader was considered particularly important by the majority of the sample. There were several reasons for this. Firstly, problems with dexterity mean that writing a message can be a much slower process than is usual for fit students. Consequently if messages were to be written whilst on-line there would be a considerable escalation in telephone call charges. Secondly, students suffering from high levels of fatigue need to work at a time when they are feeling freshest. This may not coincide with the times of cheap rate phone calls. Using an off-line reader made it possible to take time both to read and input messages whilst not connected to the system. This could address worries about running up large phone bills. Another concern expressed by one student in the earlier study was the non-availability of the phone line for other family members if long periods were spent on-line. Students with disabilities are very dependent on the support and good will they receive from their families. This issue may therefore be of particular importance for this category of student.

As described in the Methodology section for this study, a difference between the earlier study and Intervention Study 2 was that it was necessary to have access to a computer capable of running Windows '95 in order to use FirstClass Personal (the off-line reader associated with FirstClass). Those with Windows 3.1 had the option of working on-line or using ‘Off Road’, a shareware off-line reader. The use of ‘Off Road’ was permitted, but no helpdesk service was available from the university to support it. Nine of the thirteen had access to FirstClass Personal, two used ‘Off Road’, two initially worked on-line. Of these two, one upgraded his computer during the year and was then able to use FirstClass Personal.
To see if there were any differences in the results from those of Intervention Study 1, the participants were asked both mid-session and at the end of the year to rate the importance of an off-line reader for access to the system. The results were similar to those of the earlier study. By the end of the year nine students (three quarters of the sample) said that the use of an off-line reader had been very important to them, a further two quite important and one was happy to work on-line. They were asked to comment on the reasons for their answers in their own words; these comments are summarised into categories in Table 6-1.

<table>
<thead>
<tr>
<th>Table 6-1</th>
<th>Freeform comments on off-line reader and on-line working</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Off-line reader</strong></td>
<td><strong>No. of students mentioning</strong></td>
</tr>
<tr>
<td>Off-line reader means lower phone costs</td>
<td>3 students</td>
</tr>
<tr>
<td>Possible to read and compose messages at leisure</td>
<td>3 students</td>
</tr>
<tr>
<td>Past messages available for reference (software must be set not to automatically delete after a given period of time)</td>
<td>1 student</td>
</tr>
<tr>
<td><strong>On-line working</strong></td>
<td></td>
</tr>
<tr>
<td>On-line working found difficult by those without access to off-line reader</td>
<td>2 students</td>
</tr>
<tr>
<td>Only small number of messages daily means student often works on-line</td>
<td>1 student</td>
</tr>
</tbody>
</table>

The results suggest that the availability of off-line working is desirable for this category of student. The issue has considerable relevance to the success or failure of the use of CMC for access to counselling services on-line (as well as to other support structures such as Self Help Groups) for this category of student. If students do not find the system easy and inexpensive in operation, then it is unlikely to be used. The only inconsistency was the case of one student who often chose to work on-line despite having access to an off-line reader. The reason he gave of having only a small number of messages to pick up daily is puzzling since this would not be affected by the use of an off-line reader.
6.4.1.3 Frequency of usage

The students were asked how often they were logging on to the ‘Virtual Campus’ both at mid session and at the end of the year. In Table 6-2 the reported frequency and percentage increases/decreases in usage by the end of the year are presented for each participant.

Table 6-2
Frequency of ‘log-ons’

<table>
<thead>
<tr>
<th>Increasing</th>
<th>Percentage increase</th>
<th>How frequently logging on?</th>
</tr>
</thead>
<tbody>
<tr>
<td>*M07</td>
<td>300%</td>
<td>more than once a day</td>
</tr>
<tr>
<td>M02</td>
<td>50%</td>
<td>every few days</td>
</tr>
<tr>
<td>*F06</td>
<td>25%</td>
<td>every few days</td>
</tr>
<tr>
<td>M03</td>
<td>20%</td>
<td>every few days</td>
</tr>
<tr>
<td>*F04</td>
<td>unspecified</td>
<td>every few days</td>
</tr>
</tbody>
</table>

Unchanged

| *M05       |                        | more than once a day       |
| F01        |                        | every few days             |
| F03        |                        | once a day                 |
| *M06       |                        | once a week                |
| M01        |                        |                            |

Decreased

| *F05       | decreased by 50%       | once a day                 |
| *M04       | decreased by 60%       | once a week                |
| F02        | withdrawn              |                            |

(* Denotes new participants in 1997; M = male student; F = female student)

The results show that at the end of the year six of the students (half the sample) were logging on at least once a day, four every few days and two once a week. One student had withdrawn early in the study. Five of the participants said that their level of usage had increased, five that it remained unchanged over the course of the year and two that it had decreased. The case of the student who reported an increase in usage of 300% is surprising. At the beginning of the year he had been working on-line using an old Amstrad 1512 computer with a Command Line User Interface (CLUI). Part way through the year he had upgraded to a Pentium PC with consequent availability of the FirstClass off-line reader. An extract from an e-mail sent to the researcher illustrates how this had transformed the usefulness of the medium for him.
...Since learning to work off-line I have found FirstClass much more useful. It is much better to read and type at leisure, without having to worry about the phone bill, nor wonder if someone else wants the telephone line. (M07)

These comments again suggest the desirability for off-line reader availability in the particular circumstances of this category of student if the full potential of the medium is to be realised.

It was apparent from the results that the majority of the participants were accessing the ‘Virtual Campus’ on a fairly regular basis. This raised the question of which of the available facilities they were logging on to use. This important issue will be explored later in Section 6.4.4. The next section considers the findings relating to areas of difficulty identified for this group of students from the pre-questionnaire data.

6.4.2 Difficulties with the study process and special needs identified

This section discusses the special needs related to course study for this group of students, identified from the pre-questionnaire data. The information gathered provided a framework for an assessment to be made of the effects of on-line counselling in the light of known difficulties. The section of the pre-questionnaire that related to special needs for each of the participants in the sample was made available to the on-line counsellor, with the knowledge and consent of the students. This was to provide her with as full a picture as possible of their likely special needs in advance of the main study.

The Exploratory Study had identified several broad areas of difficulty for this category of student. These were explored further in the pre-questionnaire of Intervention Study 1 and similar questions were asked in the pre-questionnaires issued to the new sample in the new
study. Collating the results for these two sets of questionnaires it was possible to build a picture of problems common to the whole sample, continuing and new students.

6.4.2.1 Face-to-face tutorials

Attendance at face-to-face tutorials was identified as a major difficulty for this set of participants. Eight out of thirteen were not able to attend at all; five could only attend occasionally. Factors highlighted as problematic by the findings are set out below.

- Fluctuations in medical condition
- Issues associated with travel:
  - transport difficulties as a result of disability
  - easy parking not always available
  - tutorials at a considerable distance from home
  - non-availability of a helper to accompany them
- Access at venue:
  - walking long distances within building
    (sometimes last minute change of room)
  - lifts not always available
  - toilet facilities not always easily available/accessible
- Dexterity problems causing difficulties with note taking at tutorials
- Visual problems - problems with seeing white-board
- Severe fatigue resulting from physical effort of attendance making it counter-productive to attend in terms of effects possibly lasting for several days afterwards.

For these reasons the majority of the sample could be considered have been disadvantaged by having no (or infrequent) access to face-to-face teaching and guidance from the course
tutor and interactive face-to-face discussion with fellow students on their course. There are two components involved in this. The first of these is the dimension of discussion and learning; the second the dimension of comparative understanding made possible when interacting with other students. This finding is related to the barrier of isolation identified in the Exploratory Study. Eight of the sample said they would find home visits from the tutor useful as a means to go some way towards compensating for this. Two of the sample had experienced such visits and not found them useful. Six said that they would find telephone tutorials useful; four had tried these and not found them helpful.

Nine of the sample said that they were unable to attend Residential Summer Schools. In consequence, a number had chosen courses that did not include this component. Others who were taking courses with residential school requirement had obtained medical excusal. Four were intending to attend, but anticipated difficulty for various reasons, mainly related to access and fatigue. Of these four, in the event two withdrew from study in 1997 before attending; two attended. One of these latter two encountered several problems during the week, mainly health related, and had to return home in mid-week. One attended but encountered difficulties associated with access and fatigue whilst there.

6.4.2.2 Home based study

Areas of difficulty with independent study at home mentioned included those listed below.

- Heavy course units and books - difficulty with page turning
- Visual impairment
- Difficulty in meeting cut off dates for assignments
- Dexterity - need for word processing to produce assignments
- Severe fatigue (and in some cases pain) and fluctuations in medical conditions affected both study and ability to produce work on time.
This last finding suggested that there was a need to pace work to try to avoid exhaustion. These difficulties were associated with the barriers identified in the Exploratory Study, in particular those of fatigue and difficulty with handwriting.

Five participants were already using comb bound course units (provided by the Office for Students with Disabilities of the University) in order to address difficulties with page turning. A further two students thought that these would be useful to them. Three were using audio taped course units. A further one thought these would be useful. One was using large print units and said that large print set books (i.e. books specified as necessary for the course) would also be useful.

With respect to examinations, only one student had intended to take the examination at an examination centre. Twelve of the participants needed specially arranged home-based examinations. Of these twelve, all needed extra time and rest periods, five required the use of word processing as a replacement for handwriting, two required large print exam papers and one anticipated possibly needing an amanuensis. The student who had hoped to sit the examination at a centre needed extra time, a cushion and a seat in the front row. In the event, this student (one of the continuing group) withdrew from her course at the beginning of the year for health related and other personal reasons.

To sum up, the results from the pre-questionnaires revealed that, amongst other difficulties, the majority of the sample had not been able to take full advantage of the opportunities for face-to-face tuition and interactive contact with fellow students offered by the Open University. They could be considered disadvantaged when compared to fit students in this respect. The use of CMC as the medium of access to Self Help Groups on the ‘Virtual Campus’ might go some way to compensate for this lack of contact. Findings from
Intervention Study 1 suggested that this had been helpful. All seven of the new sample of students also indicated in their pre-questionnaires that they would like to have access to a course conference (either formally supported by a tutor or on a self help basis) on the ‘Virtual Campus’.

A range of problems had been encountered with home study. The fluctuating medical conditions of this group suggested that there was a high probability that access to a counsellor’s services would be needed at some points during the year. The earlier study had shown that CMC was a feasible option for access to an educational counsellor. Section 6.4.3 considers the main body of data relating to the effects of access to the services of an educational counsellor on-line during the main study. This includes an exploration of ways in which a relationship of rapport and trust was developed to enable the students to have confidence to approach the on-line counsellor for help.

6.4.3 The Effects of On-line Educational Counselling

In this section the results relating to the core concern of the study, the effects of access to the services of an educational counsellor on-line are presented.

6.4.3.1 Introduction

By the end of Intervention Study 2, the majority of the sample (ten students) had contacted the on-line counsellor at some time during the year. Ten felt that CMC had provided a very easy and helpful route for such communication; one had found it ‘quite helpful’ and one did not answer the question. Nine of these stated a preference for access to an educational counsellor on-line rather than by traditional routes (usually telephone); one further student thought both methods of contact were desirable and two remained unsure.
These last two both had a good pre-existing relationship with their regional tutor counsellor, which they greatly valued. Of the nine students who still retained possible access to a regional Tutor Counsellor within the new regional arrangements, only two had used this facility. Seven students (just over half the sample) had contacted their regional Student Advisory Service during the year. In a number of cases this was at the suggestion of the on-line counsellor.

There was a marked increase in the level of usage of the services of an on-line counsellor during the period of the main study compared with the feasibility study. During the period of the previous study there had been relatively few contacts, whereas in the main study the majority of the sample had contacted and received help/advice from the counsellor by the end of the academic year.

The results also revealed a considerable change in respect of three key questions relating to the participants’ perceived levels of motivation, autonomy and enjoyment of study. Ten of the twelve participants (five male, five female) reported an increased level of motivation; two said there had been no change. In the case of autonomy, seven students (four male, three female) reported some increase and five no change. Finally in the case of enjoyment, ten students (five male, five female) reported increased levels of enjoyment; only two reported no change. None of the participants reported that their levels of motivation, autonomy or enjoyment were less than they had been before. What then were the reasons for these changes? To explore this important question, the data gathered from the students is considered first (in Section 6.4.3.2). This is followed in Section 6.4.3.3 by an appraisal of that collected from the on-line counsellor.
6.4.3.2 The student perspective

In this section the data from the student questionnaires is examined, beginning with the prior statements of expectations. Secondly the student experience of on-line counselling is considered, followed by that of contact with regional Tutor Counsellors and/or Student Advisors. Fourthly the findings arising from the post-participation statements are explored. Finally perceived levels of motivation, autonomy and enjoyment of studies are considered.

Student prior statements

At the beginning of the main study the seven students of the new sample were asked to provide a short statement of their prior expectations of using CMC for access to an on-line counsellor. This question was more specific than that which had been asked of the sample of students taking part in Intervention Study 1, which had asked for prior expectations of using the medium both for on-line counselling and support of their studies generally. A summary of the prior expectations of the students taking part in Intervention Study 1 is given in Tables 6-3, followed by a summary of those of the new sample for Intervention Study 2 with specific reference to on-line counselling. Three categories have been designated to provide a framework to evaluate these expectations. These are: study related, CMC specific and social.
### Table 6-3
Summary of prior expectations from feasibility and main studies

<table>
<thead>
<tr>
<th>Prior expectations of continuing students - from pre-questionnaire of Intervention Study 1 in 1996 (N = 6)</th>
<th>Category</th>
<th>No of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy access to counselling support</td>
<td>Study related/ CMC specific</td>
<td>3</td>
</tr>
<tr>
<td>Use of the medium as a substitute for tutorials via Self Help Groups</td>
<td>CMC specific/ study related</td>
<td>2</td>
</tr>
<tr>
<td>Fast and easy access to library databases</td>
<td>CMC specific/ study related</td>
<td>1</td>
</tr>
<tr>
<td>Relief of isolation as a result of disability; in particular contact with other students and staff (including on-line counsellor)</td>
<td>Study related/social</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prior expectations of new sample of students - from pre-questionnaire of Intervention Study 2 in 1997 (N = 7)</th>
<th>Category</th>
<th>No of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desirable attributes of on-line counselling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to a specific counsellor, rather than just a team of advisors</td>
<td>Study related/social</td>
<td>3</td>
</tr>
<tr>
<td>Quick and easy access to counsellor without feeling it is an intrusion on the counsellor’s time</td>
<td>CMC specific/study related/social</td>
<td>2</td>
</tr>
<tr>
<td>Easier to use as messages can be sent and received at convenience of both student and counsellor (example given by one student, sending message at 2.30 a.m. when awake and working as a panacea for pain)</td>
<td>CMC specific/study related/social</td>
<td>2</td>
</tr>
<tr>
<td>Group access to ‘Virtual Counsellor’ would be valuable</td>
<td>CMC specific/study related/social</td>
<td>1</td>
</tr>
<tr>
<td>Ability both to set out a considered request for help and in turn be able to consider written response at leisure</td>
<td>CMC specific/study related</td>
<td>2</td>
</tr>
<tr>
<td>Faster, more accurate response to questions desired</td>
<td>CMC specific/study related</td>
<td>1</td>
</tr>
<tr>
<td>Any necessary paperwork could be exchanged electronically</td>
<td>CMC specific/study related</td>
<td>1</td>
</tr>
<tr>
<td>Possible problems envisaged</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worry about sensitive medical details being in unknown hands</td>
<td>Social/study related</td>
<td>1</td>
</tr>
<tr>
<td>Could be delay in response if counsellor is away and matter is urgent</td>
<td>CMC specific/study related</td>
<td>1</td>
</tr>
</tbody>
</table>

What was striking from a first appraisal of the two sets of data was that the expectations of the second group indicated their greater level of experience in the use of the medium when compared to the first group. The student comments revealed an intelligent grasp of ways in which CMC offers specific advantages to support interactive communication with an on-line counsellor. The prior expectations of the first group who were novice users at the
beginning of the feasibility study had been couched in much more general terms. As beginners in the use of CMC it was not surprising that their ideas were not so well developed. What this suggests is that allowing a period for familiarisation with the system (rather than jumping in at the deep end to use it for formal study support - in this case on-line counselling) may be beneficial in easing the learning curve of usage. This is consistent with Kaye (1989) who suggested that the potential of CMC as a learning tool would only be fully realised when students had become familiar with the medium and able to participate in CMC discourse as transparently as in more familiar modes.

Looking at the results for the new sample in more detail, three of the new participants mentioned the desire for access to a specific educational counsellor, rather than just one of a team of regional advisors at random. This finding was similar to that of the Intervention Study 1, which suggested that students valued a relationship of personal rapport previously built up with their regional Tutor Counsellor over a period of time and which they were reluctant to relinquish. However, with the new counselling arrangements in place in 1997 (described in Section 6.1), some students would no longer have had access to a specific regional Tutor Counsellor. It was possible that these participants had envisaged access to one specific on-line counsellor as a way to replace the old arrangements. This was a question that merited further investigation.

Ways in which personal rapport between on-line counsellor and student could be developed using CMC was a fundamental question addressed in Intervention Study 2. One of the prior statements (that of a new participant) mentioned the potential value of group access to a ‘Virtual Counsellor’. This was an encouraging sign in the light of the new experimental provision of a counselling topic in the DOORway conference. It was also interesting that two students specifically mentioned their diffidence at intruding on a counsellor’s time and a further two raised the associated point that students might be
working at odd times (e.g. sometimes being awake at night and working to alleviate pain). The fact that they could prepare and send messages at such anti-social hours without disturbing the counsellor was quoted as an advantage. This suggested that this might be an important consideration for students in this category.

Two students specifically mentioned the advantage of being able to take time to set out a considered request for help in writing and in turn to consider written responses at leisure. Simpson (1988), writing before the widespread use of CMC, argued the advantages of written communication for just this reason. At that time however, there remained the disadvantage of slowness of response via conventional mail. This should largely disappear when the medium of communication is CMC. One student wished for a faster, more accurate response to questions. This raised the question of what response time should be considered reasonable. How often should the counsellor log on to retrieve messages? To log on very frequently (more than once a day) would be very resource consuming and therefore probably not a feasible option. The guidelines issued to the counsellor suggested logging in once a day whenever possible. (A copy of these guidelines is given in Appendix C7). The question of response times and associated issues of satisfaction was addressed in the end of year questionnaire and will be considered later in this section.

One student expressed a worry about the confidentiality of sensitive medical details being in unknown hands. Again this is related to the issue of trust and rapport between counsellor and student. It may also have been related to concern about computer security. From the point of view of the professional, there is no problem; confidential means confidential without question. For the students with health difficulties however, this is a very sensitive area and it is necessary to be aware of this in any support facility offered.
Looking at this set of data overall, it is apparent that the prior expectations of access to an on-line counsellor had been quite well developed in the case of the new sample of experienced users of CMC. The following section considers the sets of data relating to the experience of the whole sample in respect of actual use of the counsellor’s services during the period of the main study.

Student experience of use of on-line counselling

A key question asked in the end of year questionnaire concerned the important new research issue raised by Intervention Study 1, this being to consider ways in which a relationship of rapport between client and counsellor could be promoted via CMC. To probe this issue, the participants were asked if they had found it helpful for the on-line counsellor to be an informal participant in the student-led topics of the DOORway conference and to give reasons for their answers. Eleven of the twelve students (six male, five female) said that they had found it helpful; only one student did not answer the question. The reasons given to support their answers (from the freeform comments) are summarised in Table 6-4.

Table 6-4
Student perceptions of informal contact with the counsellor in the group environment

<table>
<thead>
<tr>
<th>Reason</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Getting to know counsellor informally made her more approachable</td>
<td>4</td>
</tr>
<tr>
<td>2. Created a feeling of friendliness</td>
<td>3</td>
</tr>
<tr>
<td>3. Informal contact narrowed hierarchical barriers; made all feel on more equal terms</td>
<td>2</td>
</tr>
<tr>
<td>4. Helped counsellor to develop knowledge of problems faced</td>
<td>2</td>
</tr>
<tr>
<td>5. Counsellor brought in-depth knowledge of OU study system to group discussion</td>
<td>1</td>
</tr>
<tr>
<td>6. Allowed for a more rounded relationship</td>
<td>1</td>
</tr>
<tr>
<td>7. Counsellor may gather knowledge of possible solutions to problems from student discussion of their experience</td>
<td>1</td>
</tr>
</tbody>
</table>
Points 1, 2, 3 and 6 of Table 6-4 are directly related to the development of rapport. These answers suggested that the use of the conference for this purpose had been successful. Points 3 and 6 also concerned issues of autonomy and equality. These comments suggested that the informal contact had succeeded in breaking down hierarchical barriers, making the counsellor more approachable in student eyes. Point 4 suggests that these students realised that there were benefits to be gained by deepening the counsellor’s knowledge of the problems faced by those in this situation. This will be further discussed in Section 6.4.3.3. Points 5 and 7 are related. They provide an illustration of the two-way value of interactive discussion in which the counsellor could contribute from her in-depth knowledge of the University system to the group and in turn gather information on solutions to problems from the pooled student knowledge within the group. The building of such a knowledge base that is text based and can be referred to for future reference is a unique feature made possible by the use of CMC as the medium of communication. This was a further important finding. Face-to-face student support group meetings held separately from tutorials for students studying a range of different courses could be valuable - and this type of provision has not been unknown in the past. To the researcher’s personal knowledge, a Tutor Counsellor has hosted informal support meetings from time to time on a ‘satellite’ basis for students living in an area distant from a regional centre. However, it would be more unusual - if not unknown - for a group of students with disabilities to have access to a counsellor-led face-to-face meeting in this way. Even if it were to be arranged, a face-to-face meeting could not produce the advantage of a steadily building written database of shared knowledge of solutions to problems faced applicable to different group members at different times that is possible using CMC.

Concerning the amount of contact between students and counsellor during the year, the students were asked to give the number of issues about which they had contacted the counsellor by one to one e-mail and also in the counselling and student-led topics of the
DOORway conference. Two students (one male, one female) reported having had contact about five issues with the on-line counsellor; one student (female) reported three issues raised, four students (two male, two female) two issues, and three students (two male, one female) one issue. Two students (male) reported no student-initiated contact. One student (female) had withdrawn early in the study for illness related reasons. Table 6-5 presents the total number of contacts for the whole sample on a number of different types of issues.

Table 6-5
Total number of issues raised categorised by type of issue for whole sample (N = 12)

<table>
<thead>
<tr>
<th>One to one e-mail</th>
<th>Total no. of issues</th>
<th>DOORway (counselling topic)</th>
<th>Total no. of issues</th>
<th>DOORway (other topics)</th>
<th>Total no. of issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help with special needs arrangements</td>
<td>8</td>
<td>Information in relation to studies</td>
<td>7</td>
<td>Informal chat</td>
<td>20</td>
</tr>
<tr>
<td>Information in relation to studies</td>
<td>5</td>
<td>Information in relation to special needs</td>
<td>6</td>
<td>Information</td>
<td>6</td>
</tr>
<tr>
<td>Personal support when experiencing difficulties</td>
<td>4</td>
<td>Advice in relation to studies</td>
<td>1</td>
<td>Advice on study matters</td>
<td>3</td>
</tr>
<tr>
<td>Advice in relation to studies</td>
<td>2</td>
<td>Other</td>
<td>2</td>
<td>Other</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These findings illustrate that the provision of a counselling topic within this area during the main study had also been useful. A suitable environment had been established for interactive group contact with the on-line counsellor, both formally (in the counselling topic) and informally (in the student-led topics). To explore this area of experience further, the students were asked to give reasons in their own words for choosing to raise issues with the counsellor in the DOORway conference. Eight students said that there had been issues of possible interest to other students, and three had wished to share the problem with their peers. The counselling topic had been used to ask questions of general interest to the group, both about special needs provision and in relation to information and advice on study related matters. The largest number of contacts with the counsellor in other
DOORway topics reported fell under the heading of ‘chat’ (a total of 20), with a further nine on information or advice seeking. This was of particular relevance in terms of the building of rapport. It suggested that in some cases students had felt more able to raise questions in the relaxed atmosphere of the student-led topics. This is analogous with chatting informally to a tutor in the bar/coffee bar after a tutorial in a traditional face-to-face environment. This finding illustrates that in the environment of this experimental study it had been possible to develop rapport through informal contact between student and counsellor via CMC.

The majority of participants had used the services of the on-line counsellor during the year (ten out of twelve of the sample). Information provided by the on-line counsellor in Intervention Study 1 suggested that this was a much higher level of contact than would be expected in a traditional non-disabled counselling group. As expected, the finding from the student data showed that one to one e-mail had been most used when making special needs arrangements, and for personal support when experiencing difficulties. In her questionnaire the on-line counsellor commented that she had been surprised by the number of straightforward information queries that she received by e-mail that she would have expected to be raised in the conference. Sometimes students had chosen this more private route for preference, even when the issues were not confidential in nature. This will be discussed further in Section 6.4.3.3, which discusses the data collected from the counsellor.

The majority of the sample considered the time taken by the on-line counsellor to respond to messages to be good. Of the ten who reported contact, two had had a reply on the same day, six on the next day, one next day and longer (more than one enquiry), and one longer. Seven of the sample said that the response time had been in line with their expectations, two said that it had been better than expected, one said that it was worse and two gave no answer. The student who said that the response time was worse than expected had been
unfortunate. He had had needed to consult the counsellor urgently at a time when she was away from home for a period of more than a few days, and by chance this had happened twice during the year. This experience highlighted a potential problem. Once realised, the counsellor had addressed the issue by posting a message in the conference to notify students when she was not going to be available, if this was to be for more than a few days. The student who mentioned the need for access to both the on-line counsellor and to the regional student advisory service had foreseen a situation where access to student services could provide a necessary backup service in case of such an emergency.

To probe the effects of CMC as the medium of contact in this main study in greater detail, questions were asked concerning the participant’s perception of the counsellor’s level of understanding of their problem, and whether they considered the response to have been appropriate. In both cases they were asked to specify how far they felt these had been affected by the use of CMC as the medium of communication. Ten out of twelve felt that their problem had been well understood. A summary of the points arising is presented in Table 6-6. They are numbered for easy reference, and are presented in order of those issues mentioned the most number of times.
Table 6-6
Student perception of effect of CMC
on the on-line counsellor’s understanding of problems

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Able to take time to compose considered message</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Easier to explain in detail nature of the problem</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Less chance of being misunderstood</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Act of writing helped clarify problem in mind</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Tendency to forget details of problem when on phone; setting out problem in writing eliminates this</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>In an upsetting situation setting out in writing prevents emotions getting in the way</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Easier to approach counsellor having ‘got to know her’ through conference discussions</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Counsellor participation in conference meant she was aware of types of problem faced</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Using the counselling topic in DOORway meant that others could join in and make comments if they wished</td>
<td>1</td>
</tr>
</tbody>
</table>

Points 1-5 of Table 6-6 are specifically related to the use of text based communication and illustrate the advantages which can accrue from this method of communication when combined with a quick and easy method of transmission via CMC. All of these points are consistent with the advantages of correspondence counselling via Royal Mail described by Simpson (1988). The use of CMC appeared to have eliminated the old disadvantage of slowness of response. Point 6 is surprising. It is conventional wisdom in a face-to-face environment that picking up and transmitting cues empathetically from voice and facial expression can help to create rapport in a counselling situation where the client is distressed. This indeed was a point made by the on-line counsellor in her comments (discussed in Section 6.4.3.3). Here though, it appeared that the student had found that using written communication via CMC in an upsetting situation had provided a way for her to communicate on her own terms. This would seem to relate to the issue of autonomy or personal control that Garland (1995) proposed as a guiding concept in adult distance education. It suggests that it may be of particular importance to the self-respect of students with disabilities to retain control, when personal autonomy in many aspects of their lives...
may be eroded through illness. Points 7-9 relate to the group dimension of the study and highlight ways in which the building of rapport between counsellor and students had developed when using the secure confidential environment of the peer group conference. This again illustrates the value of interactive participation to both counsellor and students. Not only was the counsellor perceived as having been easier to approach because of her participation (7) but also as having gained a greater understanding of the problems faced (8). The final point emphasises the value of group discussion and input from other students in addition to the counsellor.

In relation to the second question, ten students (five male, five female) felt that the response to their request for help/information via CMC had been appropriate; the other two students (both male) did not answer, as they had previously reported no student-initiated direct contact. The reasons given for the answers are summarised in Table 6-7 in order, from the greatest number falling into each category to those mentioned by one student each.

| 1. Had help with special needs | 3 students |
| 2. Counsellor had given appropriate advice or information re studies | 3 students |
| 3. Counsellor had liaised with university on their behalf | 2 students |
| 4. Counsellor provided personal support following problems arising at Residential Summer School | 1 student |
| 5. CMC provided a good avenue for personal communication in the new circumstances with no Tutor Counsellor available | 1 student |
| 6. Felt more comfortable communicating by e-mail than on the phone | 1 student |
| 7. Preferred CMC as it enabled permanent record of communication to be kept | 1 student |

Points 1, 2 and 4 of Table 6-7 are all areas that could equally well relate to counselling by traditional methods. However, 3, 5, 6 and 7 are different. Two students said that the on-
line counsellor had liaised with various departments within the university on their behalf
(point 3). Whilst to a certain extent this could also apply to counselling via traditional
methods, using CMC enables quick and easy communication with several different
departments at once and can facilitate co-ordination of resources. In the case of this study
it had enabled one Senior Counsellor, briefed in special needs, to serve the needs of
students based in a number of different regions, as distinct from within one particular
region. It might therefore be considered to have provided an efficient way to use resources
(staff time) in addition to the prime reason of providing the best, most effective help for the
student. One student mentioned the use of CMC to maintain contact via one specific
counsellor in the new counselling environment introduced in 1997 (see Section 6.1.1).
Again this is related to the issue of personal rapport identified as important in Intervention
Study 1. Point 6 is fascinating; this student said that he had felt more comfortable
communicating via e-mail than by phone. A possible reason for this may be that the
medium is at once intimate in permitting ‘brain-to-brain’ communication and distancing, in
the sense that text based communication provides a way to maintain a degree of emotional
distance in interactive discussions. This is related to the issue of personal autonomy and a
need to feel in control, discussed earlier. The final reason also highlights another
advantage of the medium. This student had recognised the benefit of being able to refer
back to a permanent record of communication with the counsellor. Archiving messages in
this way would mean that the way in which a particular difficulty had been addressed
could be consulted should it happen again in, say, the next year of study. This might mean
a saving in counsellor’s time for the future if the student has ready access to a personalised
solution to a recurring problem. When telephone is used as the medium of contact there is
no permanent record and the details might be easily forgotten.

In seven cases (three male and four female) students reported that the issues raised with
the on-line counsellor were similar to those about which they would normally contact a
regional Tutor Counsellor. Two (both male) said they were different. One (female) had raised issues that fell into both these categories. The remaining two are those who reported no student-initiated contact. Reasons given in their own words for these choices are summarised in Table 6-8.

<table>
<thead>
<tr>
<th></th>
<th>Reasons for choosing CMC as medium of contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Student felt less guilty asking questions of counsellor as e-mail less of intrusion than telephone</td>
</tr>
<tr>
<td>2</td>
<td>Greater informality of medium made it easier to raise issues with counsellor</td>
</tr>
<tr>
<td>3</td>
<td>Possible to raise issues within closed conference confidentiality</td>
</tr>
</tbody>
</table>

Point 1 of this table relates to one of the expressed expectations of the student prior statements. This suggested the possibility that in the past students might sometimes have refrained from contacting a counsellor for help the traditional medium of telephone for fear of being a nuisance. Using e-mail had removed this inhibition since participants had realised that messages could be retrieved at the counsellor’s convenience. This raised an important issue since having access to help at the point of need could make a vital difference to their ability to continue studying for this category of student. Points 2 and 3 are both concerned with the group dimension of the study. The comments on greater informality of contact via this route once again emphasised that this had proved important in relation to the development of rapport. This was also true of the issue of confidentiality. An atmosphere of trust had developed in the closed conference environment and this had helped to foster participants’ confidence to communicate freely on sensitive issues.

The next sub-section discusses the contacts made with the participants’ regional Tutor Counsellors and also with student advisors in the regional Student Advisory Service facility.
Student contacts with Regional Tutor Counsellor and/or Student Advisors

Of the nine students who retained access to a regional Tutor Counsellor in 1997 only two said that they had used this route for counselling services. One of these commented that her contact related to a matter shared with her Tutor Counsellor in the past - again the issue of personal rapport may be seen to have been important here. However, seven of the sample (four male, three female) had contacted a member of the regional student advisory team based at a regional centre during the year. The reasons given for using this route are summarised in Table 6-9.

Table 6-9
Reasons for contacting student advisory team at Regional Centre

<table>
<thead>
<tr>
<th>Reason</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fast response needed</td>
<td>4</td>
</tr>
<tr>
<td>2. Followed up by e-mail so that there was a record</td>
<td>2</td>
</tr>
<tr>
<td>3. Ease of access</td>
<td>1</td>
</tr>
<tr>
<td>4. Problem too complex to put in writing</td>
<td>1</td>
</tr>
<tr>
<td>5. No e-mail address known for regional Student Services at the time</td>
<td>1</td>
</tr>
</tbody>
</table>

Points 2 and 5 of Table 6-9 relate directly to the use of e-mail as a medium of contact. It was surprising that in two cases the student had rung to make an enquiry and asked for this to be followed up by a confirmatory e-mail. The reason for this was to have a written record of the response. In the case of point 5, the student would have preferred e-mail as the contact medium had there been a known e-mail address available for the regional centre at the time. This ties in with the response to a question in another section of the questionnaire. Five students said that they had used e-mail as the preferred way to contact their course tutor. In some instances this had been the case even when the course was not officially supported by FirstClass. This finding suggests that e-mail was becoming the medium of choice for contact for these participants who had gained familiarity with the medium. These are examples of creative development of use of the medium to support their studies by the students concerned. They suggest that they were adapting to the
medium and taking advantage of it. Points 1, 2 and 3 showed that from time to time there
had still been a need for telephone contact where an instant reply to a query was needed.
Point 4 illustrates that on occasions it had been found easier to have a voice dialogue to
explain a complex problem. These four points may be considered to have been
predictable. They show that on-line contact with a counsellor was not suitable in every
case. It appears that students had found telephone access to the regional student advisory
service of particular value when they needed an instant response to a query.

The most frequently quoted reason for contact with regional staff was for help with special
needs. Four of the contacts concerned straightforward information seeking in relation to
studies; two sought advice on the best course of action to take relating to particular study
matters and two required personal support when experiencing difficulties. The reasons
given are summarised in Table 6-10.

Table 6-10

<table>
<thead>
<tr>
<th>Types of issue raised with regional Student Advisors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Special needs arrangements</td>
</tr>
<tr>
<td>2. Late change in course choice</td>
</tr>
<tr>
<td>3. Referred for advice by on-line counsellor</td>
</tr>
<tr>
<td>4. Regional office helpful for administration</td>
</tr>
<tr>
<td>5. Felt would be wasting on-line counsellors time when issues related directly to Regional Centre</td>
</tr>
</tbody>
</table>

Point 1, 2 and 4 from this table were predictable reasons for contacting the Regional Centre
since this is where most special arrangements are made. Point 3 shows that that the student
had initially used the services the on-line counsellor in a liaison capacity, thus maintaining
autonomy. The counsellor had re-directed the student to the right source of help to meet
their need. Point 5 raises two possibilities. It could be that this student had (i) still
hesitated to be thought a nuisance in contacting a counsellor or (ii) wished to exercise his
own autonomy in sorting out a problem for himself. It perhaps suggests a view of the on-line counsellor as a resource of ‘last resort’ if he arrived at a point where he could not himself sort out a difficulty. These findings suggest that the combination of access to a personally allocated counsellor on-line, plus access to the regional student advisory service when an instant reply was needed, had been valuable for these participants.

The following section considers the data from the students’ post-participation statements at the end of the study.

**Student post-participation statements**

At the end of the year all the participants were asked to make a statement in their own words about their experience of access to counselling facilities on-line. The full student prior and post participation statements are given in Appendix G, together with a summary of the counsellor record sheet for each student, providing summary case studies. For brevity, in Table 6-11 the issues raised have been summarised into categories; on the left those of the continuing sample who had had access to an on-line counsellor for two years and on the right, those of the 1997 sample who had had access to an on-line counsellor for only one year, but were equally experienced users of CMC in self help groups.
<table>
<thead>
<tr>
<th><strong>1996 student sample</strong></th>
<th><strong>1997 student sample</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive meeting of expectations</strong></td>
<td><strong>Positive meeting of expectations</strong></td>
</tr>
<tr>
<td>Expectations were exceeded - facilities available over two years provided all the facilities necessary to support study (M03)</td>
<td>Expectations were high and were met in terms of counselling and support (F04)</td>
</tr>
<tr>
<td></td>
<td>Expectations were met. Confidential advice and on-line counsellors actions most helpful (M06)</td>
</tr>
<tr>
<td></td>
<td>Access to on-line counsellor much more useful than expected - will miss access next year (F05)</td>
</tr>
<tr>
<td></td>
<td>Has been a very positive experience and great benefit to studies (M07)</td>
</tr>
<tr>
<td></td>
<td>Previously no contact with a counsellor, but contact in DOORway made her appear more friendly and approachable (F06)</td>
</tr>
<tr>
<td></td>
<td>Promotes sense of security and feeling of ‘one to one’ support (M04)</td>
</tr>
<tr>
<td><strong>Increased familiarity with medium added confidence</strong></td>
<td><strong>Specific benefits of use of CMC</strong></td>
</tr>
<tr>
<td>Initial worries over loss of contact with regional Tutor Counsellor allayed, now felt easier with new CMC arrangement than she did with the old traditional arrangements (F01)</td>
<td>Using e-mail to contact a counsellor has resulted in queries being answered quickly (F01, M02)</td>
</tr>
<tr>
<td>Increased familiarity with using the medium over period of time means now feel confident to use it for counselling support (2 students; F01, F03)</td>
<td>Easier to send a message when feeling well enough than be constrained to a particular time slot designated by regional Tutor Counsellor for contact by telephone; of particular importance when medical condition is a fluctuating one (F01)</td>
</tr>
<tr>
<td></td>
<td>Encouraged by support from the on-line counsellor to continue with studies and not give up in the face of difficulties encountered during the year (2 students; F01, F03)</td>
</tr>
<tr>
<td></td>
<td>Enjoyment of studies increased (M02, M03)</td>
</tr>
<tr>
<td></td>
<td>Counsellors advice on-line gave support both for current course and future course choice (F04)</td>
</tr>
<tr>
<td>Value of group dimension via Doorway conference</td>
<td>Value of group dimension via Doorway conference</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Membership of DOORway has given both educational and social perspective, widening contact and enjoyment (M02)</td>
<td>Previously had no contact with a counsellor, but having on-line counsellor participating in DOORway made her appear more friendly and approachable and gave confidence to approach her on one-to-one basis by e-mail; plenty of encouragement via conference for anyone who felt low about ability (F06)</td>
</tr>
<tr>
<td>Support was received through DOORway on problems not directly related to studying, but which had an effect on ability to continue studying (F04)</td>
<td>Availability of on-line counsellor and discussion group invaluable for disabled people (M04)</td>
</tr>
<tr>
<td>Would like DOORway and on-line counselling service to continue (M06)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>In respect of autonomy, considers that potential exists using CMC to discuss issues with students who will be affected by decisions made centrally or at regional level (F04)</td>
</tr>
<tr>
<td>Frequently asked questions (FAQ) read only conference could be helpful (M05)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Qualified negative comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefer face-to-face contact (one student); suggested possibility of video tutorials or counselling contact (M01)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Qualified negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Although disappointed because of problems with response time when counsellor away, still felt that on-line counselling would be a boon for all categories of student, not just disabled. (M05)</td>
</tr>
</tbody>
</table>

The findings presented in Table 6-11 illustrate that for the majority of these students the experience of having access to an on-line counsellor during the course of the main study had been extremely positive. There were two exceptions, both male. One student from the continuing sample had had little contact with the counsellor. It was interesting that he suggested the possibility of video meetings on-line with a counsellor or tutor as a preferable alternative option. This would involve using the medium of CMC in a different way and shows that he had not completely rejected the idea of using an electronic means of communication. The second student (from the new sample) had had an unfortunate
experience with a long response time to an urgent query when the counsellor was away. This had not however made him reject the value of on-line counselling in principle. In the case of the continuing group, two students commented on their increased confidence as a result of developing familiarity with the medium. This highlights the desirability for a period of familiarisation with using CMC to be built in before using it for more formal study support purposes. Access to the open SHG area of the ‘Virtual Campus’ for any Open University student registered for any course might provide a convenient way to achieve this. The new sample (who had come to the study as experienced users of the medium) had been much more confident from the outset.

In relation to the important issue of rapport, phrases used by students such as ‘friendly and approachable’, ‘feeling of one to one support’, ‘increased confidence’, ‘plenty of encouragement’, were mentioned by a number of students. This suggested that the informal friendly approach adopted by the counsellor - in particular in the interactive group environment of the DOORway conference - had helped in this respect. It appears that the new provision introduced in the main study had encouraged the students to approach the counsellor freely and with confidence. This is an important finding. The student comment relating to the development of autonomy using CMC is relevant to distance learners in general. It suggests a potential value of the medium to provide interactive feedback for university decision-making in matters of policy affecting the student body.

**Student motivation, autonomy and enjoyment of the study process**

A key question to be considered at the end of the study was whether there had been any effects on students’ levels of motivation to persevere with their studies, autonomy and their enjoyment of the study process. The results of questions asked in the end of year
questionnaire to establish the student’s perception of any changes are presented in Table 6-12.

<table>
<thead>
<tr>
<th></th>
<th>Motivation</th>
<th>Autonomy</th>
<th>Enjoyment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 13</td>
<td>N = 13</td>
<td>N = 13</td>
</tr>
<tr>
<td>Male</td>
<td>N = 7</td>
<td>Female</td>
<td>N = 6</td>
</tr>
<tr>
<td>Great increase</td>
<td>-</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Some increase</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>A little increase</td>
<td>1</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>No change</td>
<td>2</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Less than before</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Withdrawn from study</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>early in year through</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>illness</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

These results show that more than three quarters of the sample reported an increase in motivation and enjoyment of their studies, and more than half had experienced a greater feeling of autonomy.

The data collated from the questionnaire and counsellor record sheets suggest that important factors in these results were that:

(i) the counsellor’s informal participation in the topics of the peer group conference on a fairly regular basis had built up rapport between them. This had had the effect of promoting the necessary confidence to approach her freely for advice and assistance when needed, both in the counselling topic and by one to one e-mail;

(ii) better interactive contact had enabled the counsellor to give unobtrusive low-key assistance, which had helped to maintain the autonomy of the student. The counsellor records of student contacts showed that she had liaised with staff in
other departments of the university in connection with queries raised to a greater extent than was apparent to the students (six recorded instances rather than the two reported in the student questionnaires);

(iii) using CMC the students were able to send messages at a time convenient to themselves knowing that the counsellor could also pick up messages at her convenience. This appears to have had the effect of making them less diffident about contacting her for fear of intruding on her leisure time.

The following section explores the results from the counsellor questionnaires and her record sheets of student contacts.

6.4.3.3 The on-line counsellor perspective

This section considers the information provided by the on-line counsellor. This includes her prior and post participation statements, the data from the student record sheets and the end of year counsellor questionnaire. The counsellor had come to the project as a novice in the use of computer conferencing, only having been familiar with the use of e-mail to communicate with colleagues. Thus her technical expertise and confidence in using the medium had developed gradually over the period of the study. She brought particular interest and knowledge of the support of students with disabilities to the project. This was considered important to the stated aim of the building of rapport between the counsellor and students. Before she had begun active involvement she had been sceptical about the possibility of building a counsellor-client relationship of rapport via CMC. Her reasons for this were given in her prior statement, which is quoted in full below.

…I have to confess to a belief that electronic counselling cannot replace either face-to-face or telephone counselling. The lack of visual and aural cues and the consequent lack of opportunities to respond to tones, silences, emotions etc. seems to me critical.
I cannot therefore see how electronic counselling could possibly be as effective as face-to-face or telephone counselling. However there is a certain excitement about the new medium and an immediacy to it, which gives it much more potential that straight letter writing, which I see as the most similar of the traditional methods of communication.

Students might therefore be encouraged to use the medium because of its novelty. Hence the student is possibly more likely to play a pro-active role in the counselling relationship. However, I suspect that they would tend to use it for factual information rather then for discussing real counselling issues. But this is not necessarily bad. For the student it is a line of contact to someone whom presumably, the student will begin to learn a little about and to trust, from the style of responses over a period of time. (Choice of words seems to be pretty critical). It may therefore be a more slowly developing relationship than with more traditional methods, but nevertheless a sound one.

I cannot at the moment actually see any benefits to the counsellor …yes, I suppose one can measure responses more, but I’m not convinced this is always a good thing. I think spontaneity can be an important ingredient of counselling interchange.

I imagine that the apparent immediacy of the medium might lead students to expect immediate responses, which are not always possible. This could lead to frustrations and irritations if, for instance, the counsellor had been away for a long weekend. I also imagine it would be easier to upset someone totally unintentionally by choice of word or phrase. Clicking on the button is very final.

So it is with a little trepidation, but certainly an open mind and quite a lot of excitement that I enter into this territory’…

(On-line counsellor: prior statement)

At the end of the year, she was again asked how she had viewed her role at the beginning of the study. Extracts from her response are quoted below.

... 'I felt that of necessity my role would be a rather cold, unemotional, clinical advice giving role. I did not expect there to be any “real” personal exchanges or any “real” counselling issues arising. I thought that students would feel reluctant to open up on a computer screen and would limit themselves to seeking information from me’…

(On-line counsellor; end of year questionnaire)

The prior importance placed by the counsellor on visual and aural cues was particularly interesting in the light of one aspect of the student experience of on-line counselling discussed earlier. Two of the students commented that they had felt more comfortable commenting by e-mail than telephone in a distressing situation. This was surprising and suggested that text based communication via a computerised link might be a way by which the student could experience a sense of greater control of the transaction. This issue was followed up in personal interviews in the final phase of the research.
By the end of the study, the counsellor’s view had changed considerably. Her response to a question on the possible value of informal contact within the peer group conference in establishing the counsellor-client relationship is illuminating.

... ‘I was a little uncertain about the function of the ‘chat’ and ‘discussion’ conferences vis-à-vis counselling to start with. I felt it would be intrusive to put comments in there. However, I now think that the opportunity for other students to observe the kind of response the counsellor is able to give to an individual student’s query might enable them to feel easier about contacting the counsellor themselves, either one to one or via a conference...

...I thought initially that the counsellor-client relationship would be best developed one to one. I can now see that there is another dimension to this development, the group dimension, which can complement and contribute to the individual counsellor-client relationship’ ...

(On-line counsellor; end of year questionnaire)

This raised two further points. The first illustrates the value of a group dimension in allowing each student to read and assess the interaction between the counsellor and other students. The findings suggest this had provided a less daunting means to build confidence than taking the initiative to approach the counsellor by one to one e-mail in order to get to know her. The second concerns the ‘many to many’ interactive discussion in the group. In this way it had been possible for information to be shared and disseminated between all participants. The body of student members had had the opportunity to gain from the counsellor’s knowledge; in turn the counsellor had had an opportunity to gain: (i) a deeper knowledge of the kind of difficulties faced and ii) student solutions already found to such problems. This highlights an advantage unique to CMC for a geographically widely distributed disabled group. It would be a very rare occurrence for such a group to meet face-to-face. The environment of an empathic on-line community had enabled a continuous exchange of information and support to be maintained.
The counsellor’s responses to how overall her views had changed over the course of the study are fascinating. These are quoted below, interspersed with the researcher’s comments on the points raised:

... ‘The main change, for me, has been in the appreciation of the tremendous support the students are able to give each other through their own closed conferences. I was astonished at the way the conferences (topics) functioned and felt privileged to be able to observe the levels of warmth, joy and care, as well as the difficulties, upsets and struggles displayed by the students in their interactions with each other’...

(On-line counsellor, end of year questionnaire)

These comments on the value of the peer sharing in the DOORway conference support the views expressed by a number of the student participants (discussed in Section 6.4.4). This was a group with a doubly shared area of interest, being undergraduate distance learners facing difficulty with study for reasons of disability. Recent studies undertaken by Preece and Ghozati (1998a and 1998b) into the ways in which a number of on-line Internet communities operate have suggested that shared empathy was important to the success of such groups.

... ‘This kind of communication is undoubtedly of enormous value to the students and enables a level of participation way above what the students would otherwise be able to enjoy. In fact study would be impossible for many of the students without the moral support of their fellow students in the conferences’....

(On-line counsellor, end of year questionnaire)

This observation on interactive communication in the peer group conference provides another perspective on the value of such contact in maintaining motivation to study for the students.

... ‘But, besides peer-support, there is definitely also a place for more formal educational counselling via CMC. If it is possible to cast aside pre-conceptions about the importance of visual and oral cues, then it is undoubtedly possible to develop effective counselling relationships via this medium. My initial cynicism was certainly allayed over the course of the year as the power of the medium became apparent ...

... My own experience would indicate that it is more of a mental effort to build up a cognitive picture of each student via CMC. Normally, in a student-counsellor relationship, there are several types of input to the overall picture, visual, oral, intellectual aspects of the personality as the relationship grows, in order to achieve a sense of the whole person and to enable the necessary “tuning-in” to
happen with each counselling interaction. I found it more difficult, though by no means impossible, to build up these individual pictures in my head using only the CMC messages as input. It was very interesting how significant it was to receive photographs of the students. (Researcher’s note: these were for inclusion on a web page for the project). The few whose photos were missing from the web-site page were on the whole (but not entirely) the ones I had much more difficulty “tuning-in” to. However, photographs aside, I began to realise that there are ways of becoming sensitive to the ways students express things via CMC and the ways students participate in the open conferences. This gradually enabled me to develop a picture of the person and to enable more effective counselling interactions to take place…”

(On-line counsellor; end of year questionnaire)

The counsellor’s comment on being able to relate more easily to the students once she had seen photographs of them perhaps reflect her preconceptions on the importance of face-to-face contact. In the course of her normal work she was accustomed to having the opportunity to meet students in a face-to-face environment from time to time. It was encouraging that as she had become more experienced in the use of CMC during the year she had found that there were other ways of developing sensitivity to the ways in which students expressed things via the medium. How this was achieved was an issue which was probed more deeply in a set of personal interviews in the final phase of the research (see Chapter 7.5.2.3). This finding has wider implications relating to support provision for students working in isolation for reasons other than disability (e.g. geographically remote, parents housebound with young children).

There were several aspects that the counsellor had found surprising. Firstly, at the outset students had used one to one e-mail less than expected. She had assumed they would prefer the privacy of this mode of communicating. As time progressed and students became more confident (as a result of getting to know her informally in the conference) there had been more queries via the mailbox. Secondly, the issues raised had been different to her expectations. There were fewer of the more standard advice seeking queries, more about qualifications and more about equipment, particularly computing equipment. In the case of standard queries, she had found it surprising that they were mostly raised in the mailbox rather than in the counselling topic of the conference, since
they were not personal issues. In the case of those concerned with qualifications, she felt that she had incorrectly assumed that students in this category would not be aiming for long-term qualifications. Lastly, regarding equipment provision, she had assumed that all the students’ computing/equipment needs would have been sorted out before beginning their studies. The information concerning last two points in particular had added to the counsellor’s knowledge of special needs. This suggested that the use of CMC for interactive contact could improve communication and lead to a more in depth understanding of such needs. Examples of issues raised over the course of the year (either one to one or in the conference) are given below.

- Setting up examination arrangements
- Use of word processor and spell check in examination
- Concern about invigilator not being able to see computer screen during exam
- Exam anxiety support in regions
- Assignment substitution rule
- Special circumstances form regarding examination
- Qualification queries
- Problems with Internet access (usually connected with funding)
- Need for computer loan
- Need for wheelchair at residential school
- Need for comb bound course units to be sent out early
- Need for special home based tutorial
- General need for encouragement
- Emotional upset
- Health deterioration
- New administration systems for collecting information re student needs
In the DOORway conference area, the ‘chat’ and ‘discussion’ topics of the peer group conference had been used much more heavily than the counsellor expected. Her observation there had revealed that much peer counselling was offered in this student-led area. She had initially felt uncertain and a little uncomfortable about her role in relation to these topics, citing the parallel of the tutor’s role in relation to a traditional face-to-face self-help group. In the case of the latter, she comments that it is usual once the group is set up for the tutor to act simply as an absent advisor/consultant, if that. The counselling topic (her ‘Virtual Room’) had been used somewhat less than she had expected. She postulates that this might have been due to her being less pro-active than she might have been, feeling that her assumptions about privacy had perhaps inhibited her to start with. She further comments that the decreasing use of this topic as the year progressed reflected the development of a one-to-one relationship between herself and the students, with a consequent increase in contacts made via the mailbox. This latter comment is substantiated from the findings found in the student data which suggest that ‘getting to know’ her through group exchanges in the conference topics had had a positive effect on approachability and resulted in increased confidence to e-mail her with queries on a one to one basis.

Overall, during the course of the year the counsellor had moved from a position of scepticism to one of positive recognition of the potential of CMC as a medium for on-line counselling provision for students with disabilities. She acknowledged that her knowledge of the nature of the problems faced by students with long-term health problems had been deepened. This had occurred particularly as a result of the group dimension provided by interactive discussion in the closed peer group conference area. This is an encouraging finding. In the following section the results distilled from the counsellor record of student contacts are considered.
Counsellor records of student contacts

A précis of the counsellor records of the interactive contacts between herself and each student is included in Appendix C 8. It is organised into two student groups, the first being the continuing sample (who had previously taken part in the feasibility study) and the second the sample new to the study in 1997. The student reference numbers are prefixed with M for male students and F for female. The summary for each student gives the prior and post participation statements, indicates whether their course was successfully completed or not in 1997 and which of them had taken part in the Exploratory Study survey. The issues arising are summarised below.

The fact that the counsellor had initiated contact with each student twice during the year (at the beginning and mid-year) had presented the students with an easy opportunity to raise any issues that might be worrying them. It was puzzling that the record sheets showed that both students who said that they had not had direct contact with the counsellor had in fact responded, in one case to the first e-mail, in the second to both. It may well be that their questionnaire answers meant that they had not themselves initiated contact. Four categories of contact were identified and the number of students who made queries falling into each of the categories at some point during the year is given in Table 6-13.

<table>
<thead>
<tr>
<th>Table 6-13</th>
<th>Categories of student - counsellor contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct action taken by on-line counsellor to liaise with other university officers on provision of special needs arrangements or difficulties encountered as a result of disability</td>
<td>6 students</td>
</tr>
<tr>
<td>Individual advice given on particular enquiries (sometimes after consultation with other university departments)</td>
<td>6 students</td>
</tr>
<tr>
<td>Information; straightforward information on study matters from counsellor’s own knowledge</td>
<td>3 students</td>
</tr>
<tr>
<td>Information and advice given in group conference on issues raised by students in this environment</td>
<td>6 students</td>
</tr>
</tbody>
</table>
This data illustrates that the counsellor had been active on behalf of the students and in six instances had liaised with other university departments to ascertain the best way forward before returning to the student to discuss the outcome of their query/request for help. This had involved a good deal of effort on her part. It illustrates the skill of the counsellor in providing low key assistance which had provided a great deal of useful help to support the students’ study process. The use of CMC as the medium of contact had enabled help to be given unobtrusively.

The data relating to information and advice given in the group conference illustrates ways in which this facility had been used. The counsellor records showed that this communication route had been used to respond to queries raised by six students. In some instances these had been raised directly with the counsellor in her counselling topic. In other cases she had picked up an issue being discussed by the students in one of the other student-led topics and provided an answer to the whole group in this informal area. This finding illustrates that her services had been used in a number of different ways, not only on a ‘one-to-one’ but also a ‘one-to-many’ and ‘many to many’ basis. The record sheets showed that the counsellor had set out to make warm encouraging supportive comments in the light of the problems that arose. Her messages had contained friendly chat, both course related and informally on such issues as holidays (reminiscences of places known to both counsellor and student) and mutual acquaintances (among Open University staff). The results from the student feedback suggest that taking such an informal approach had been an enabling factor in developing an atmosphere of rapport in which interactive exchanges between counsellor and student could grow and flourish.

The following section presents the data relating to other facilities available on the ‘Virtual Campus’.
6.4.4 Student usage of the ‘Virtual Campus’

This section explores the data relating to the use of various types of facility available on the ‘Virtual Campus’. The use made of Self Help Group conferences is examined. In 1997 the whole sample was equally experienced in the use of the CMC and in a ‘level playing field’ situation in every respect but the use of on-line counselling. All participants in the new sample had been users of Cosy4/Wigwam, including the closed peer group conference DOORway in 1996. They were therefore familiar with interactive peer discussion in that environment. All the participants in this new sample were asked in the pre-questionnaire to rate a range of possible advantages of using the CoSy4/Wigwam, based on their experience in the earlier year. This was a similar question to one asked in the end of year questionnaire of the Intervention Study 1. The intention was to discover if there were similarities or differences in the experience of the two samples in respect of Self Help Group facilities in the earlier year. A table showing the full results for this question for the new sample compared with those for the 1996 sample (taken from the results of the feasibility study) is given as Table 2 in Appendix C6.

The two sets of results showed that both at the end of Intervention Study 1 (continuing sample) and beginning of the main study (new sample) there was unanimity in the high value placed on the relief of isolation through access to the ‘Virtual Campus’ during 1996 (a total of 13 students). The nature of isolation for this group was both physical and social, as identified in the Exploratory Study. The issue of social barriers of attitude encountered by the disabled in the workplace is a subject explored in some depth by Roulstone (1994) and is also of relevance in a learning environment. CMC may be instrumental in removing such barriers by allowing students to choose whether they reveal their disability or not to others with whom they are in communication. Bowers (1996), builds on the position of Rheingold (1993, p 26), and suggests that CMC removes the initial challenge of having to
explain a handicap to non-disabled people, enabling those with disabilities to join in a
collection with the same delay in communication speed as other computer users on the
system. In the context of the Autonomy approach adopted in the experimental studies
reported here, the findings suggest that had provided a useful way to address the barrier of
isolation identified by the Exploratory Study.

In relation to the specific possible asynchronous advantage of using CMC to send and
receive messages at any time, the whole of the new sample (seven students) rated this at
‘5’, as did five out of six of the continuing students. Five out of seven of the new sample
rated the use of a keyboard to prepare messages off-line at ‘5’ on the scale compared with
five out of six of the continuing students. All these results suggest a high degree of
satisfaction with using CMC as a support mechanism for this category of student.

A table presenting the comparative results of ratings given to various categories of Self
Help Groups and e-mail for 1996 and 1997 by both the continuing and new samples is
given in Appendix C6, Table 3.

In summary, the results show that in respect of usefulness of conferences, the DOORway
conference ranked first in perceived usefulness of the facilities provided. Nine students
rated its usefulness at ‘5’ on the scale (three quarters of the sample) in both 1996 and 1997.
One difference which emerged from the results in respect of 1996 usage was that a greater
number of the new sample gave the highest rating of ‘5’ to the use of course based self
help groups (four out of seven of the new sample compared to two out of six of the
continuing sample). It is surmised that this may have been an original motivating reason
for their having independently obtained access to the system. A smaller proportion of the
sample (three students) rated course based Self Help Groups at ‘5’ on the scale for 1997
than was the case for 1996. This was also the case for Special Interest Groups. A possible
reason for this could be that in some cases there had been no SHG available for their
course in 1997. It might be that the necessity of having to request a conference from the
OUSA controller was considered a less ‘user friendly’ option than having the freedom to
set up conferences for themselves, as had been possible on the earlier system. Informal
chat conferences were rated less highly in both years. In the case of use of e-mail, more
than three quarters of the sample had awarded this facility the highest rating of ‘5’ in 1997
compared with over half in 1996, an increase in perceived level of usefulness during the
period of Intervention Study 2.

As a way of counterchecking these results, the students were specifically asked in another
question at the end of 1997 to rank six available types of service from 1 to 6, with ‘1’ being
the ‘most important’ and ‘6’ the ‘least important’. In this case on-line counselling was
included in the list of options. A précis is presented in Table 6-14, which gives the first and
second place rankings in order of importance and the fifth and sixth place rankings. The
table giving the full results summary is provided in Appendix C6, Table 4. A number of
students ranked services jointly. This is the reason why the total of ‘No 1’ rankings is
greater than 12.

**Table 6-14**

Précis of rankings table for on-line services

<table>
<thead>
<tr>
<th>Highest rankings</th>
<th>Lowest rankings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>DOORway</td>
<td>No. of students</td>
</tr>
<tr>
<td>Course based SHGs</td>
<td>5</td>
</tr>
<tr>
<td>On-line counselling</td>
<td>2</td>
</tr>
<tr>
<td>E-mail</td>
<td>2</td>
</tr>
<tr>
<td>SIGs</td>
<td>1</td>
</tr>
<tr>
<td>Chat conferences</td>
<td>1</td>
</tr>
</tbody>
</table>
This table shows that the support conference DOORway ranked as the most important reason for logging on to the Virtual Campus, with nine students (three quarters of the sample) ranking it as 1st or 2nd. Although only two of the sample ranked access to an on-line counsellor as 1st, a further five ranked it as 2nd. Thus access to on-line counselling was considered as next in importance for a total of seven students (more than half the sample). It appears that access to the DOORway conference was the key facility to have been used by the students. This is an important finding since the conference provided access to the counsellor in the counselling topic as well as to other students facing similar problems in a confidential environment. It is discussed in more depth later in this section.

Five students ranked access to course based SHGs as of primary importance. This was perhaps predictable given that this was a group of undergraduate students. It was however also of interest in relation to the use of the main body of students participating in the ‘Virtual Campus’ since it suggests a way in which course related discussion might be supported without a formal tutor-led course conference existing. As there are many students who for various reasons are not able to attend tutorials, access to a ‘virtual’ Self Help Group might help to compensate for this. Special Interest Groups (SIGs) which were singled out for mention as being of value by two students were: (i) a books conference area (in which students and the occasional staff member informally discussed various types of literature they had read/were reading), and (ii) a school governors conference (in which participants were in the main themselves governors and gained by interactive discussion of the responsibilities of the role). Both of these can be considered to be educationally broadening in content. At the other end of the scale, the open informal chat conferences were ranked as least important, with eight students ranking them as 6th. This type of conference is the virtual equivalent of a bar or coffee bar and discussion could be quite trivial - though light hearted and of value in allowing students to let off steam. They were
followed in the ranking order by SIGs, with seven ranking these at 5th or 6th. Three participants ranked course based SHGs at 5th or 6th. This is probably because none were available for their particular courses. The male student who ranked on-line counselling at 6th claimed to have had no contact with the counsellor, though her records show that she had initiated contact with him at the beginning of the year. This may mean that he had misread the question, taking it to mean student initiated contact rather than including contact that was initiated by the counsellor. This is a point to take into account in the design of any future questionnaires.

In order to explore the role of the various self-help facilities further, at the close of the study the whole sample was asked to comment in their own words on the ratings given to each type of conference. The responses have been categorised under several different headings, presented in Table 6-15, these being study related, social, rapport and broad educational. Some answers fell into more than one of these categories and this has been indicated in the table.
Table 6-15
Summary of freeform comments from end of year questionnaire on usefulness of Self Help Groups in 1997

<table>
<thead>
<tr>
<th>Category of contact</th>
<th>DOORway</th>
<th>No. of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>study related</td>
<td>Sharing of information on coping with both course related and other problems</td>
<td>5</td>
</tr>
<tr>
<td>social/study related/rapport</td>
<td>Provides friendly contact with other members facing similar problems</td>
<td>5</td>
</tr>
<tr>
<td>social/study related</td>
<td>Closed conference confidentiality permits discussion of sensitive issues</td>
<td>3</td>
</tr>
<tr>
<td>social/study related</td>
<td>Permits freedom of choice to reveal/not reveal disability on the open campus</td>
<td>2</td>
</tr>
<tr>
<td>social/study related/rapport</td>
<td>Peer support lessens isolation</td>
<td>1</td>
</tr>
<tr>
<td>social/rapport</td>
<td>Provide safe environment in which to discuss health related issues</td>
<td>2</td>
</tr>
<tr>
<td>study related/social/rapport</td>
<td>Problems discussed with other members treated with respect and consideration</td>
<td>1</td>
</tr>
<tr>
<td>social/rapport</td>
<td>Get to know individual personalities through contact over time</td>
<td>1</td>
</tr>
<tr>
<td>social</td>
<td>DON’T WANT TO THINK ABOUT ILLNESSES</td>
<td>1</td>
</tr>
<tr>
<td>study related</td>
<td>Course based Self Help Groups</td>
<td>3</td>
</tr>
<tr>
<td>study related</td>
<td>Useful when available</td>
<td>2</td>
</tr>
<tr>
<td>study related</td>
<td>Negative points</td>
<td></td>
</tr>
<tr>
<td>study related</td>
<td>Nothing gained</td>
<td>1</td>
</tr>
<tr>
<td>study related</td>
<td>Badly structured</td>
<td>1</td>
</tr>
<tr>
<td>study related</td>
<td>Limited use - mainly spotting errors in TMA question</td>
<td>1</td>
</tr>
<tr>
<td>broad educational/social</td>
<td>Special Interest Groups</td>
<td></td>
</tr>
<tr>
<td>broad educational</td>
<td>Taking part in SIG has given much pleasure and resulted in</td>
<td>1</td>
</tr>
<tr>
<td>broad educational</td>
<td>arrangement of a face-to-face meeting of the group</td>
<td></td>
</tr>
<tr>
<td>broad educational</td>
<td>Useful exchange of information on school governorship</td>
<td>1</td>
</tr>
<tr>
<td>broad educational</td>
<td>Broadening of interest in field unrelated to area of course study</td>
<td>1</td>
</tr>
<tr>
<td>broad educational</td>
<td>Generally useful</td>
<td>1</td>
</tr>
<tr>
<td>social</td>
<td>Negative comments</td>
<td></td>
</tr>
<tr>
<td>social</td>
<td>Little content, too much to read</td>
<td>1</td>
</tr>
<tr>
<td>social</td>
<td>Read rather than participated</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 6-15  (continued)
Summary of freeform comments from end of year questionnaire
On usefulness of Self Help Groups in 1997

<table>
<thead>
<tr>
<th>Chat conferences</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Use occasionally for leisure</td>
<td></td>
</tr>
<tr>
<td>Provide opportunity to get to know people at their best and worst</td>
<td></td>
</tr>
<tr>
<td><strong>Negative points</strong></td>
<td></td>
</tr>
<tr>
<td>Not useful</td>
<td></td>
</tr>
<tr>
<td>Limited use except to learn how easily misunderstandings can arise and escalate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>social</td>
</tr>
<tr>
<td></td>
<td>social</td>
</tr>
<tr>
<td></td>
<td>social</td>
</tr>
<tr>
<td></td>
<td>social</td>
</tr>
</tbody>
</table>

By far the greatest number of comments related to the peer group conference, DOORway. They concerned both study related and social issues. What emerged as important was the value placed on the availability of a closed confidential conference area as a forum for interactive discussion on sensitive issues with others facing similar difficulties. Five students directly commented on this in relation to both course related and other problems, such as health difficulties. The value of this area of the ‘Virtual Campus’ for building rapport with the on-line counsellor (the core study) has already been discussed, when considering educational counselling support. In relation to peer group support, the concept of the value of ‘collective goods’ in building a co-operative group of people described by Rheingold (1993 p 13) is of relevance. Preece and Ghozati (1998a and 1998b) also argue that strongly shared interests have been found to be important in empathic on-line communities. These findings are of particular interest in relation to the work reported here. In the case of the DOORway conference the group of students shared two strong areas of mutual interest, those of Open University study and disability. Table 6-16 gives a breakdown of the number of messages in the conference topics from February - the end of April 1997 and from the end of July 1997 - end of January 1998. The gap is the unfortunate result of an irretrievable hard disk crash in which the conference messages for this period were lost from the researcher’s off-line reader at the time of peak conference
activity. The table does however provide an indication of the level of activity in the various topics.

## Table 6-16
Breakdown of number of DOORway messages during the period of the study

<table>
<thead>
<tr>
<th>Topics</th>
<th>Mid Feb 97 - 26th April 97</th>
<th>July 23rd 97 - Feb 2nd 98</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductions</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td>Discussion</td>
<td>197</td>
<td>311</td>
</tr>
<tr>
<td>Technical</td>
<td>100</td>
<td>25</td>
</tr>
<tr>
<td>Chat</td>
<td>101</td>
<td>862</td>
</tr>
<tr>
<td>Medical</td>
<td>6</td>
<td>134</td>
</tr>
<tr>
<td>Counselling</td>
<td>15</td>
<td>69</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>432</strong></td>
<td><strong>1,418</strong></td>
</tr>
</tbody>
</table>

Within the conference the discussion was wide ranging. It included interactive discussion of difficulties encountered in their studies and ways in which these had been addressed. As an example of this, a number of students had health related difficulties, which had affected the taking of examinations. One member described special arrangements for the taking of a ‘yardstick’ examination, which in circumstances of severe disability or illness permits the examination to be taken over a number of days. As a result of this discussion a second student who had been on the point of deciding that she would not be able to take the examination had been able to arrange for this special provision. This had enabled her to successfully complete her course. Examples of other issues discussed relating to study concerned the provision of comb bound units, disability problems encountered at residential school and the use of word processing in examinations. Many of these messages appeared in the informal ‘chat’ topic. The division of the conference area into sub-topics meant that it had been possible for those who wished to discuss matters related to technical and medical issues to do so in a well defined area. Such identification made it
easier for students to discriminate on which might be of interest to them personally. Early in the year the technical topic was quite active; the more technically literate students had been able to give help to those who were less so in several areas related to use of the system. The medical topic was fairly lightly used. It appears that medical conditions had been in the main regarded as a ‘given’. Two students particularly mentioned that the closed conference had meant that their freedom of choice to reveal/not reveal their disability to others on the open ‘Virtual Campus’ was maintained. This finding illustrates its value in having promoted autonomy for these participants, since it had preserved communication on equal terms without the disability getting in the way. This is an important issue in terms of barriers of disability. On the negative side of the equation, one student commented that he did not want to think about illnesses. There is an issue of freedom of choice here, he had been free to participate or not as he wished.

In respect of the other categories of SHG’s, five students commented on the value of ‘virtual’ course-based SHGs. In particular, three said that these had been valuable when not able to attend face-to-face tutorials. As discussed earlier, face-to-face tutorials form an integral part of the study support provided by the Open University and students may be disadvantaged by non-attendance. The majority of the participants in this study were either not able to attend tutorials at all or only occasionally and with difficulty. This finding suggests that course based Self Help Groups might have helped to compensate for the lack of contact with fellow students studying the same course. This is also of relevance to other categories of students working in isolation for any reason.

The comments on Special Interest Groups (SIGs) raised some important points even though these conferences had been used by a smaller number of participants. One student commented that participation in a SIG had resulted in a broadening of his interests in a field unrelated to his area of course study. This comment fits the description of the two
cases quoted earlier and constitutes a valuable comment on the nature of education itself. Here we find an exciting intimation that Frost’s (1991) assertion that involved students are more likely to be academically and socially integrated into the college community might indeed be possible in a distance learning environment - as well as on the traditional campus environment to which she is referring.

…When one aim of advising is to increase meaningful contact between students and advisors, students can become more involved in the academic aspects of college. Involved students are more likely to be academically and socially integrated into the college community… (Frost 1991 p2)

The informal open ‘chat’ conferences on the ‘Virtual Campus’ were the least used. Two students had found them occasionally useful for leisure. The comment about the escalation of misunderstandings (Table 6-15) is a salutary one. It indicates that great care in choice of word is necessary when making written comments in a CMC environment to avoid possible misunderstandings. As discussed in Chapter 2.3.4 this phenomenon, colloquially known as ‘flaming’, has been observed in other studies and is well documented (see for example Siegal, Dubrovsky et al. 1986; Hiltz, Turoff et al. 1989; Dubrovsky, Kiesler et al. 1991; Lea, O'Shea et al. 1992; Parks and Floyd 1996).

Six students (three male, three female) had used e-mail lists as a medium for informal group discussion. Of these, three said they had used them for private discussion and two for course based discussion where no OUSA SHG was available. This illustrates that the students had been resourceful in finding their own way of using the communications system to compensate for no longer being permitted to set up a conference for themselves, as had been possible in the previous year using CoSy4/Wigwam. Again this relates to the issue of autonomy.
In Section 6.5 the findings of the study are discussed in the light of the research questions. Section 6.6 summarises the conclusions are drawn following this period of reflection.

6.5 Reflection

In this section the findings from Intervention Study 2 are discussed in the light of the research questions. What were the effects of access to an educational counsellor on-line in the environment of the ‘Virtual Campus’? In what ways (if at all) was rapport developed between counsellor and student? What were the holistic effects (if any) of access to the wider range of facilities of the ‘Virtual Campus’?

There were marked changes in the levels of usage of the services of an on-line counsellor when compared to those of Intervention Study 1. The majority of the sample (ten students) had contacted her for help during the year. At the end of the year nine expressed a preference for access to a counsellor on-line, rather than by traditional routes. ‘One to one’ contact via the mailbox had increased over the course of the year. So what were the reasons for this? Findings drawn from the data collected from both the counsellor and students indicate that the building of a relationship of rapport through informal contact in the peer group conference had been a major factor. Including group access to the counsellor within the area of this conference had been successful in encouraging use of her services. The DOORway conference was ranked by the majority of the sample as the primary reason for regular access to the ‘Virtual Campus’. As discussed in Section 6.4, the conference can be described as a strongly empathic on-line community. In this instance however, there was a doubly shared common interest base, that of distance learning at undergraduate level and disability related problems connected with this type of study. It had provided an environment that had conveniently facilitated interaction with the on-line counsellor on a group basis, both formally in the counselling topic and more informally in
the student led topics. The fact that on-line counselling was ranked as the second reason for accessing the ‘Virtual Campus’ by more than half the sample suggests that this was the case. The need to ask directly for help from a counsellor was not a frequent occurrence. Her fairly regular active contributions in the DOORway conference topics had provided a way in which the students could feel in constant touch with her. Even when they had not been in immediate need of personal help, this had promoted the necessary confidence for them to approach her easily on a one to one basis when more private discussion was necessary. This is an important finding for the potential future development of such support.

There were further reasons for the increased level of contact which were directly related to the use of CMC. It was surprising to find that a number of students had in the past felt guilty and held back from contacting a counsellor by traditional routes when they were in need of help. The asynchronous nature of contact via CMC had helped to remove this inhibition since they had no longer felt the same fear of intruding on the counsellor’s personal time, as appeared to have been the case by telephone. There was the added advantage that the students could in turn pick up the counsellor’s reply at their convenience. This asynchronous aspect identifies an advantage unique to the medium for counselling contact. Another surprising finding was that two students had specifically expressed a preference for on-line counselling in an upsetting situation concerned with study, one commenting that this prevented emotions from getting in the way. This runs counter to the widely held view (initially shared by the counsellor) that visual and aural cues are necessary to create empathy in such a situation. It suggests that the issue of personal control was perceived to be important here. A fact related to this issue is that only two of the nine students who retained access to a regional Tutor Counsellor had exercised that choice during the course of the year. Nine of the sample said that, given the option of one or the other, they would prefer access to counselling on-line rather than traditional
routes. This suggests that CMC had become the medium of choice. Other reasons cited concerned the text-based nature of the communication. Using the off-line reader facility had allowed time to compose a considered message. This was of particular importance to those with dexterity problems. Associated with this, other reasons given were: (i) that it was easier to explain in-depth the nature of the problem, (ii) that the act of writing had helped clarify the mind - with less chance of being misunderstood in consequence and (iii) that in telephone conversations things which the student intended to mention might be forgotten. Setting out the issues in writing could help eliminate this.

The counsellor had acted as a channel of liaison between the students and the institution in six instances during the year. This demonstrates a much higher level of contact and active involvement than had been the case in the earlier study. It had resulted in more satisfactory provision being made to meet student needs in various ways. This had contributed to the reported increased levels in enjoyment of their studies reported by the majority of the sample. There are findings which suggest that motivation to persevere with study was attributable to support provided by the on-line counsellor. For example, in one instance a student who had been on the point of giving up her studies following a traumatic experience (disability related) at residential school had been encouraged to continue. She had managed to successfully complete the course (see Appendix C8 pp 1-2, ref. F01). In another case where a student had had to withdraw for health reasons, she had been motivated to register for the following year by support from the counsellor, rather than dropping out completely (see Appendix C8 p3, ref. F03). The arrangements made for a loan computer for the following year meant that another student was enabled to register for her course of choice (see Appendix C8 p6, ref. F06). These results were encouraging.

During the course of the experimental period, the counsellor had moved from a position of scepticism to one of enthusiasm about the potential benefits of use of the medium as a
channel for educational counselling support to be offered. The main issue she had found surprising was the value of the interactive group discussion provided by the DOORway conference. She had come to realise that this not only gave the opportunity for students to observe the kind of response a counsellor is able to give to an individual student (and so feel easier about contacting her), but also that there was another dimension to contact within the conference. This was the ‘many to many’ group dimension which could complement and contribute to the individual counsellor-client relationship. Through her participation, she had come to appreciate the tremendous support that the students were able to give each other in this environment. As discussed earlier, this illustrates that CMC a unique way in which CMC had enabled a widely distributed group of disabled undergraduate distance learners to communicate interactively with each other and with their educational counsellor on a continuing basis throughout the year. This is an important finding, emphasising the value of the environment of an ‘empathic community’ in enabling a relationship of mutual rapport to be built up between the counsellor and students. Other surprising issues had concerned the nature of the queries dealt with. In particular, the counsellor had not anticipated that there would be an interest in long-term qualifications for this category of student; secondly, there had been more queries on the subject of computing and equipment than expected. She had assumed that these would all have been sorted out previously. These points suggest that, in the case of this sample, the use of CMC had provided a more effective channel of communication for issues related to special needs than by previous established routes.

In respect of the wider picture of the effects of access to the ‘Virtual Campus’, the results revealed that the DOORway conference was considered to be the key facility by the majority of the sample. Nine out of twelve had ranked the conference as their primary reason for logging-on on a regular basis (see Table 6-14). It appears that it had served as a central ‘hub’ of support for the students, a secure base from which to venture into the open
conferences. This illustrates the value to this group of participants of a ‘virtual empathic community’ of mutually shared interest - in this case a ‘virtual community’ of disabled undergraduates within a larger university ‘virtual community’ of distance learners. The results suggest that the holistic experience of contact with the body of students in open conferences (various self help groups, both course based and more broadly educational special interest groups) had been beneficial and had increased participants’ enjoyment of their studies. The whole sample reported that their feelings of isolation in their studies had been reduced by access to fellow students on the ‘Virtual Campus’. It is necessary to remember that although the Open University is a distance learning institution there is still an important element of face-to-face contact at tutorials and residential schools built into the study process. The majority of the students in the sample were largely deprived of this element of study, being able to attend only rarely or not at all for reasons associated with their health problems. The use of CMC had in some measure compensated for this by enabling discussion with fellow undergraduates.

The use of an off-line reader had been found to be important during the feasibility study and similar results were recorded in the main study. Nine out of twelve participants rated its use as ‘very important’ and a further two as ‘quite important’. The reasons for this were concerned both with cost of telephone calls and with the convenience of reading and preparing messages over a period of time. This is particularly important for this category of student with problems of dexterity and fatigue to contend with. Once students had the necessary equipment to run FirstClass Personal, no major problems appear to have arisen through the use of a GUI in the case of this sample.

Section 6.6 sets out the conclusions which led to the set of personal interviews that formed the final phase of the main study.
6.6 Conclusions

The increased levels of motivation, autonomy and enjoyment of study reported suggest that access to the services of an on-line counsellor within the environment of the DOORway conference had resulted in considerable beneficial effects for the participants in support of the study process. Interactive communication with the counsellor had been better than via previous routes. This had improved the study process for these students - especially in relation to special needs. In the context of the Autonomy approach adopted in this experimental study, several factors related to the use of CMC as the medium of contact emerged as importance and these are summarised below.

Issues concerning educational counselling

Firstly, the new structure of the peer group environment, designed to provide a balance of control between the counsellor and the student participants, had been effective in building a relationship of rapport. The findings suggest that informal contact in the group environment of the peer group conference topics had played an important role in achieving this. It had promoted confidence for the students to approach the counsellor with problems. The counsellor reported that the number of enquiries she received by one to one e-mail had increased as the year progressed (see Section 6.4.3.3). Secondly, the results suggest that use of CMC had enabled the counsellor to liaise effectively and unobtrusively between individual students and other university support services (see Section 6.4.3.3 Table 6-13). Help given in this way could help to maintain student autonomy. Thirdly, students’ comments suggested that the asynchronous nature of the medium had helped to remove a perceived barrier of fear of intrusion on a counsellor’s personal life when using traditional methods of contact (usually telephone). Fourthly, two students reported feeling more comfortable with using CMC than telephone as the medium of contact in emotionally
distressing situations. This finding suggests that interactive communication via this route had provided a distancing element which had helped these participants to feel in greater control of the transaction.

**Value of an ‘empathic on-line community’ for peer support**

Use of CMC had enabled a geographically widespread group of disabled students to ‘meet’ in a private area (the DOORway conference). The structure of this facility was designed to promote autonomy for participants. The results suggest that for this sample of students communication in this ‘empathic on-line community’ was perceived as having provided interactive mutual support in many aspects concerned with their studies. Only use of an electronic communication medium could make it possible for such a group to ‘meet’.

**The ‘Virtual Campus’**

The whole sample placed a high value on access to the FirstClass ‘Virtual Campus’ as a means to relieve isolation, both through peer contact in the DOORway conference and communication with the wider student body in the open conferences (see Section 6.4.4). The findings suggest that this had helped to compensate for being unable to attend (or to attend only infrequently) face-to-face tutorials that form an important element of study with the Open University.

**Importance of off-line reader facility**

The use of an off-line reader for access was considered particularly important by this sample of students. It had allowed time to be taken both to prepare and to read messages. This was necessary in the case of this group of students with long-term health problems, mainly for reasons of impaired dexterity and severe and fluctuating levels of fatigue.
Overall, the findings suggest that the role played by the peer group conference had been pivotal to the reported benefits for this sample of students. In order to probe some of the issues raised by the study more deeply, a set of follow up interviews was designed. These are described in Chapter 7, Personal Interviews.
Chapter 7: Personal Interviews

7.1 Introduction

The final phase of the main study took the form of a set of personal interviews. Interviewees included students from both Intervention Study 2 and a new sample. The latter included students who were: (i) studying without access to computers at all, (ii) using computers on a ‘stand alone’ basis and (iii) computer users with network connectivity (including access to the Open University ‘Virtual Campus’) but who had not experienced access to the ‘value’ added facilities’ provided for participants in Intervention Study 2. A number of issues were addressed. Firstly, had the barriers to study changed over the time span of these studies?

- “What are the barriers to effective study faced by undergraduate distance learners with long-term health problems?”

Secondly, the inferences drawn from Intervention Study 2 could be investigated. In the case of educational counselling, these concerned: (i) the high value placed on establishing a relationship of rapport with an educational counsellor; (ii) student reservations about using telephone as the medium of contact, including fear of being a nuisance and not wishing to intrude on the counsellor’s time; and (iii) the suggestion that e-mail had proved a more comfortable route than other modes of contact for students to discuss difficulties with a counsellor in an emotionally stressful situation. This last deserved further investigation since it differed from the widely accepted view of the importance of visual and aural cues in establishing empathy in such circumstances. In the case of the use of CMC to support study more generally in the environment of a ‘Virtual Campus’ (in particular access to the DOORway peer group conference), the findings of Intervention
Study 2 had suggested that isolation had been reduced. This was another issue to be probed further in the personal interviews.

The rationale for using this method was that it would provide a way to explore these issues in depth and to ascertain student perceptions from a different angle. Use of a different research instrument would enable crosschecking of the validity of the earlier findings. Information collected by one-to-one interview would enable a more rounded picture of the experience of these participants to be built up, in conjunction with the data collected in the earlier studies.

Interviews were conducted using two different research methods, as described in Chapter 3.5.4. These were *face-to-face* interviews (N = 6) in the homes of students and *epistolary* interviews by asynchronous e-mail (N = 5). In each case a similar set of core questions was used, adapted for text-based communication in the case of the latter method. In addition to the first research question, a modified question relating to educational counselling was addressed:

- “What conditions facilitate good communication with an educational counsellor?”

The interview questions in respect of this issue were designed to explore participants’ perceptions of their experience of access to an educational counsellor in greater detail, investigating contact via traditional communication routes as well as CMC. Additionally the issue of access to other generally available facilities on the ‘Virtual Campus’ was addressed:

- “What are the perceived effects of access to other conferencing facilities available on the ‘Virtual Campus’?”
In connection with this last question, those without network access were asked to envisage any potential effects they could foresee from such provision. By 1997 the necessary software to access the open facilities of the ‘Virtual Campus’ was available on request to those currently registered for a course of study with the university. It was therefore considered relevant to explore this question because it might throw light onto the reasons why more students in this category were not as yet accessing the system. There were three possibilities for this. There might be financial constraints, which prohibited them from doing so. Alternatively, they might not be aware that such provision was available. Finally they might be consciously choosing not to use the medium for support.

Section 7.2 sets out the procedure followed when implementing this phase of the work. In Section 7.3 the selection of the sample is briefly described. Section 7.4 outlines the methods of data collection and describes the structure of open-ended questions that provided the framework for the interviews. In Section 7.5 the results are discussed and in Section 7.6 conclusions are drawn from the data.

### 7.2 Procedure

Each of the students participating in the study was given a pseudonym to protect anonymity. The names of all others (counsellors, tutors, spouses etc.) referred to in the course of the interviews have also been changed, and all references to specific course names or numbers removed. At the beginning of each interview it was carefully explained to the student that the researcher might wish to use verbatim extracts from the transcripts of the interviews in published work and that this would be on the basis of protected identity, as described above. A transcript of his/her interview was sent to each student for verification. In the case of the new sample interviewed face-to-face, a hard copy of the transcripts of his/her interview was posted to each student, together with a covering letter.
(see Appendix D4). In the case of students with network connectivity (N = 7, comprising four of the Intervention Study 2 sample, including the two interviewed face-to-face, and three from the new sample) the transcript was sent in the form of a Word 6 file as an e-mail attachment to a similar covering message. Access to the transcripts provided the students with an opportunity to say if there were any parts of the text that they would prefer not to be quoted verbatim. It was explained that a paraphrase would be used in such cases, should the researcher wish to refer to the material. All of the students gave their informed consent to the use of the data on this basis.

7.3 Selection of the sample

Participants in this final phase of the main study were drawn from a sample of students from Intervention Study 2 (two male, two female) and a new sample of students (three male, four female) with a variety of serious long-term health problems. The rationale for the selection of the sample, including the necessary criteria for participation is described in Chapter 3.5.4. The new sample covered a spectrum of experience relating to computer access. Three were users of the ‘Virtual Campus’ (but had not had access to counselling services via this medium, nor to the peer group conference DOORway), two were computer users without network connectivity and two had not to date used computers at all to support their studies. One of these last two had obtained a computer shortly prior to the interview, after having volunteered as a non-user.

Table 7-1 gives the pseudonyms of the participating students in this set of interviews and shows those interviewed by each method. This is to enable ready identification of the category into which each student falls where references to their comments are made in the text. The pseudonyms used for the two on-line counsellors who participated, one in
Intervention Study 2 and the other in Intervention Study 1 that preceded it, are also given.

<table>
<thead>
<tr>
<th>Table 7-1</th>
<th>Pseudonyms of students and on-line counsellors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample drawn from Intervention Study 2</strong></td>
<td>Face-to-face interviews</td>
</tr>
<tr>
<td>Anna, Sarah</td>
<td>Jill</td>
</tr>
<tr>
<td>Gareth, Jeremy</td>
<td>Janice</td>
</tr>
<tr>
<td><strong>New sample</strong></td>
<td></td>
</tr>
<tr>
<td>Students using computers with network connectivity to ‘Virtual Campus’, but without access to peer group conference or on-line counsellor</td>
<td>Daniel, Susan</td>
</tr>
<tr>
<td>Students using computers on a ‘stand alone’ basis</td>
<td></td>
</tr>
<tr>
<td>Students not having used computers to support study</td>
<td>James, Mary</td>
</tr>
<tr>
<td><strong>On-line counsellor in Intervention Study 2</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>On-line counsellor in Intervention Study 1</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7-1 presents the composition of the sample. As illustrated, the face-to-face sample consisted of two of the students who had participated in Intervention Study 2, two students who were using computers on a ‘stand alone’ basis, and two who had not used computers to support study. These interviews were conducted at the homes of each student over a period of half to one hour in each case. They were recorded on audiotape with the prior consent of the participants. The sample interviewed by e-mail included two participants from Intervention Study 2 and three students with access to the ‘Virtual Campus’ (but not to the ‘value added’ facilities experienced by students who had taken part in the research studies). On average each *epistolary* interview took two weeks to complete, with not more than two interviews being under way at any one time. Whilst use of the medium with an
off-line reader would theoretically make it possible to conduct more interviews at once, it was premised that juggling a greater number would make it difficult to maintain the necessary mental focus. This was borne out in practice. The experience gained in the experimental use of the medium for this purpose suggests that two is the optimum number of participants to be interviewed at any one time.

Those students in the face-to-face condition from Intervention Study 2 were those living within reasonable travelling distance of the researcher. Those interviewed on-line lived at a long distance away. Using e-mail enabled them to be included. It eliminated concerns about the possible need to rearrange interviews (or having to cancel them completely) should the student be too unwell on a pre-arranged date. Although ideally it would perhaps have been preferable to be able to interview one male and one female by each method, in the event this did not prove possible. However, since similar questions were to be asked in each case it was considered acceptable that there were two male and two female interviewees in total from this sample, which preserved the gender balance overall. Those of the new sample interviewed on-line who were users of the ‘Virtual Campus’ were also widely distributed geographically, again making face-to-face interviews difficult to arrange. All of them had fluctuating levels of health, especially fatigue, which made non time-dependent interviews a preferable option, both for them and for the researcher.

7.4 Methods of data collection

The study was divided into two parts each using a different interview method (see Chapter 3.5.4). These were face-to-face interviews in the home of the student (N = 6) and epistolary interviews, an experimental method of personal interview by asynchronous e-
mail (N = 5). The following section describes the framework on which the interviews were based.

### 7.4.1 Design of interview structure

A framework of interview guidelines was designed. It consisted of key questions for each category of student with various follow up questions (depending on responses). In the case of *epistolary* interviews the key questions were adapted for text-based communication from those of the face-to-face interviews. A copy of these guidelines is appended as Appendix D5.

Each student was asked an initial broad open-ended question and responses were followed up with conversational-style interactive discussion and further probing questions, depending on the nature of the response. Core questions relating to experience of educational counselling services by traditional methods (telephone and/or face-to-face) were devised for the whole sample. They concerned: (i) the student’s experience of contact with educational counselling services by traditional routes, usually telephone but occasionally face-to-face; and (ii) their experience of using the new provision of access to Student Services at their Regional Centre and whether this had made any difference to their contact with a counsellor. The research question addressed by this group of questions was as follows:

- “What conditions facilitate good communication with an educational counsellor?”

Other questions were more specifically tailored to the category into which the student fell in terms of computer usage. In the case of the sample drawn from Intervention Study 2
these included questions to probe student perceptions of their experience of access to an on-line counsellor and the environment in which the support was offered. In this case these questions followed up inferences drawn from the results of the earlier study. They covered: (i) student perceptions of ways in which rapport had been built when using CMC, (ii) ways in which the use of the medium had addressed barriers of hesitation to contact a counsellor encountered when using traditional communication methods (telephone or face-to-face), and (iii) the inference that CMC had proved a more useful route for communication in an emotionally difficult situation.

The new sample was additionally asked about other aspects of their studies, including special needs when studying at home, tutorial and residential school attendance, and examinations. The reason for this was to enable a comparison to be made with the data gathered in the Exploratory Study that had been conducted a number of years earlier. It would provide a way to check whether the previously identified problems remained the same, using another method of data collection. In this case the research question addressed was the original research question:

- “What are the barriers to effective study faced by undergraduate distance learners with long-term health problems?”

Those without network connectivity were given a brief overview of the facilities that had been available to the participants in Intervention Study 2 on the ‘Virtual Campus’ (in particular educational counselling and the closed peer group conference) and asked if these might be of potential interest to them. Those with access to the openly available facilities on the ‘Virtual Campus’ were asked additional questions about their experience of using the facilities available generally to all students by this route. This last group of questions addressed the research question:
• “What are the perceived effects of access to other conferencing facilities available on the ‘Virtual Campus’?”

The results collated from the whole set of interviews are presented in the following section.

7.5 Results

This section explores the results of this final phase of the research. In Section 7.5.1 the data relating to special needs is discussed, followed in Section 7.5.2 by that relating to educational counselling. The main focus is on the latter of these two sections since questions about special needs were asked mainly as a means of crosschecking the findings of the Exploratory Study. The role of peer support on the ‘Virtual Campus’ (including the DOORway conference) is discussed in Section 7.5.3. Finally issues raised spontaneously by students during the course of the interview are explored in Section 7.5.4.

7.5.1 Special needs

With respect to special needs relating to the aspects of the study process previously explored in the Exploratory Study (see Chapter 4), the results collated from interview responses of the new sample of students revealed that the problems identified remained very similar. The difficulties singled out for mention by this sample are summarised in Table 7-2.
Table 7-2
Summary of difficulties encountered with study by new sample

<table>
<thead>
<tr>
<th>Category A</th>
<th>Number of students (N = 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatigue</td>
<td>4</td>
</tr>
<tr>
<td>Pain</td>
<td>4</td>
</tr>
<tr>
<td>Concentration and memory problems</td>
<td>3</td>
</tr>
<tr>
<td>Difficulty caused by impaired vision</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category B</th>
<th>Number of students (N = 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe difficulty with handwriting</td>
<td>6</td>
</tr>
<tr>
<td>Severe mobility problems</td>
<td>7</td>
</tr>
<tr>
<td>Difficulty with page turning/holding books</td>
<td>4</td>
</tr>
<tr>
<td>Inability to sit for long periods</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category C</th>
<th>Number of students (N = 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to attend tutorials at all</td>
<td>4</td>
</tr>
<tr>
<td>Attend but infrequently and with difficulty</td>
<td>3</td>
</tr>
<tr>
<td>Greatly missed ability to attend</td>
<td>2</td>
</tr>
<tr>
<td>Home based exam necessary</td>
<td>6</td>
</tr>
<tr>
<td>Not able to attend residential Summer School</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category D</th>
<th>Number of students (N = 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barriers of attitude encountered through disability mentioned</td>
<td>5</td>
</tr>
<tr>
<td>Diminishment of personal autonomy as a result of disability mentioned</td>
<td>4</td>
</tr>
</tbody>
</table>

In Table 7-2, the findings have been broadly grouped into issues relating to the four categories identified as barriers in the earlier study (fatigue, difficulty with handwriting, isolation and a need for better interactive contact with support services). Those shown in category A may be termed invisible barriers since they are internal to the individual and, although very real, may not be immediately obvious to others. Those in Category B are concerned with physical difficulties encountered in the preparation of work, as a result of health conditions. Both of these categories may be considered to contain elements related directly to medical difficulties. Those in categories C and D may be considered to fall under the heading of social barriers. Those mentioned in category C relate to isolation caused by inability to attend face-to-face venues. Those in category D suggest the
desirability of a heightened awareness of these perceived barriers by support agencies. These findings suggest that the barriers identified in the Exploratory Study are experienced by this group of students too. A further finding suggests that severe difficulty with handwriting might have had a considerable influence in motivating the acquisition of access to a computer for word processing for these participants. Interestingly both Daniel and Mary mentioned voice recognition systems as a potentially valuable way to address their problems with manual dexterity, though neither had as yet tried using this tool. Extracts that illustrate some of the difficulties experienced are presented in Tables 7-3A and 7-3B.

**Table 7-3A**

<table>
<thead>
<tr>
<th><strong>Epistolary interviews</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tom</strong></td>
</tr>
<tr>
<td><strong>Jennifer</strong></td>
</tr>
<tr>
<td><strong>Joanna</strong></td>
</tr>
</tbody>
</table>
The extracts from the transcripts presented in Tables 7-3A and 3B clearly illustrate the high level of difficulty experienced with handwriting for these participants.
7.5.2 Educational Counselling

A core issue addressed in the interviews across the whole sample concerned experience of contact with educational counselling services. This section begins by exploring the issues of student perceptions of the nature of the relationship with a counsellor. The importance (or otherwise) of the establishment of rapport in such a relationship is discussed. This issue is considered in the context of the two different types of support possible by conventional communication routes as well as via CMC. These were: (i) support from a personally allocated Tutor Counsellor, usually a part time Course Tutor, and (ii) access to a Student Advisor (based in the Regional Centre of the region in which the student is located) on a ‘point of need’ basis. Secondly difficulties encountered with using the telephone as the medium of contact are considered. This is followed by a discussion of students’ perceptions of the ways in which rapport was developed using CMC. Finally, a summary of the preference rankings for different channels of support is presented.

7.5.2.1 Relationship of rapport and continuity of contact

Table 7-4 summarises the responses relating to the interviewees experience of both contact with a personally allocated Tutor Counsellor and with a Student Advisor based at a Regional Centre of the university.
Table 7-4
Summary of student perceptions of counselling services

<table>
<thead>
<tr>
<th>Perceived levels of importance of relationship of rapport and continuity of contact with one known person</th>
<th>Very important No. of students (N = 11)</th>
<th>Quite important No. of students (N = 11)</th>
<th>Not very important No. of students (N = 11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship of rapport with educational counsellor</td>
<td>7</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Continuity of contact with one known person</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summary of contacts with regional advisory services</th>
<th>Problem experienced</th>
<th>No problem experienced</th>
<th>No comment made on issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact with a duty Student Advisor is more impersonal than using the services of a Tutor Counsellor</td>
<td>6</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Necessity to re-state requirements/difficulties mentioned as a problem</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

The summary presented in Table 7-4 suggests that the majority of the sample regarded a relationship of rapport with an educational counsellor as being important to their study support. Continuity of care was also considered either very important or quite important by more than two thirds of the sample. More than half the sample considered contact with a duty counsellor at their Regional Centre by telephone to be more impersonal than using the services of an individually allocated Tutor Counsellor. A number of interviewees commented at some length on the difficulties caused by having to re-state their needs each time they needed help when ringing a Student Advisor at their Regional Centre. Extracts that illustrate the importance attached to these issues are presented in Tables 7-5A (face-to-face interviews) and 7-5B (epistolary interviews).
Table 7-5A
Perceptions of importance of relationship of rapport and continuity of care

<table>
<thead>
<tr>
<th>Face-to-face interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anna - participant in Intervention Study 2</td>
</tr>
<tr>
<td>Anna: … It would depend on who the other person was, (...) but somehow or other I find that I feel that the (.) erm (.) e-mail I think I would prefer initially, ‘cos I feel that through that erm (.) medium you get to know the person; there’s no barrier that stops you, you know? (...) It’s like I said about Anthea; Anthea has a mannerism (my Tutor Counsellor) that immediately is cold and so its always like there’s a barrier put up</td>
</tr>
<tr>
<td>Margaret: Right (nods)</td>
</tr>
<tr>
<td>Anna: … Now I’ve got to get past that on the telephone, I’ve got to get past that before I can discuss the problem with any confidence whatsoever. Whereas, now that I know her, I know she’s always been like that and its not intentional on her part …</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mary - working without computer access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Margaret: … Right. So, you mentioned contact with Regional Centre just now. I was going to ask you actually whether that made any difference to you? …</td>
</tr>
<tr>
<td>Mary: Yes!</td>
</tr>
<tr>
<td>Margaret: It does?</td>
</tr>
<tr>
<td>Mary: I don’t feel that I (…..) I’m less inclined to ring …</td>
</tr>
<tr>
<td>Margaret: You are?</td>
</tr>
<tr>
<td>Mary: … I have to be really desperate (laughs)</td>
</tr>
<tr>
<td>Margaret: Right. Why (..) is that? Because its? …</td>
</tr>
<tr>
<td>Mary: … It’s because you never know, because they usually say ‘Oh, I’ll put you through to someone’ and you never know who you’re going to get. It’s not the same as being able to ask for a specific person and their always being there. …</td>
</tr>
<tr>
<td>Margaret: Mmm</td>
</tr>
<tr>
<td>Mary: … over the years he built up a picture of us, each one of us. Our family problems, our personal problems, and how that affected our studies. Regional office isn’t going to have the same personal information….</td>
</tr>
<tr>
<td>Margaret: No</td>
</tr>
<tr>
<td>Mary: … in that sense. It may be on the screen, or in the files, but it’s not going to be the same as knowing the person face-to-face.</td>
</tr>
</tbody>
</table>
Table 7-5A
Perceptions of importance of relationship of rapport and continuity of care (continued)

<table>
<thead>
<tr>
<th>Daniel - working with access to computer on ‘stand alone basis’ - (discussing potential of access to a counsellor on-line)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Daniel:</strong> &amp; … but it would be <em>nice</em> to be able to say to somebody, ‘Look’ you know, ‘I’ve got <em>this</em> question. I don’t want to ring you up and ask the question, just in case you think I’m an idiot, but I’m going to ask this question …</td>
</tr>
<tr>
<td><strong>Margaret:</strong> &amp; Mmm</td>
</tr>
<tr>
<td><strong>Daniel:</strong> &amp; … but I don’t know you well enough to be able to <em>think</em> “Is this person going to think I’m an <em>idiot</em>”</td>
</tr>
<tr>
<td><strong>Margaret:</strong> &amp; Mmm</td>
</tr>
<tr>
<td><strong>Daniel:</strong> &amp; So, if you were putting it on a piece of paper, or sending an e-mail then they realise it’s important, even if it’s a stupid one, it’s still a question that’s important to ask, you know, to the person. So, it’s a little bit easier. Personal interaction is difficult for a lot of people. I <em>had</em> to do it because of my profession. So you have to have an <em>instant rapport</em>; but for a lot of people, they don’t <em>do</em> that.</td>
</tr>
<tr>
<td><strong>Margaret:</strong> &amp; So rapport is important?</td>
</tr>
<tr>
<td><strong>Daniel:</strong> &amp; Yes! Rapport is important; but you can still ask your question on-line, bang it in, the person can think about it. But if you <em>ask</em> it face-to-face, people think you haven’t thought it through…</td>
</tr>
</tbody>
</table>
**Table 7-5B**

Perceptions of importance of relationship of rapport and continuity of care:

*Epistolary interviews*

---

**Epistolary interviews (on-line)**

<table>
<thead>
<tr>
<th>Gareth - participant in Intervention Study 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gareth</strong> … I was miffed at being forced to change Counsellors at a time when continuity would have been really beneficial. Jane knew me so well, and I didn't feel I had the energy to explain all my personal problems all over again to a complete stranger, so I must have decided (consciously or unconsciously, I can't remember) to manage without.</td>
</tr>
</tbody>
</table>

**Margaret responded: Thread 1.** So my understanding of what you are saying so far is that a relationship of personal rapport with your counsellor is important to you?

**Gareth replied:** Yes, much more important to me than having a counsellor who lived in my region. Unfortunately, the OU took the opposite view.

<table>
<thead>
<tr>
<th>Jeremy - participant in Intervention Study 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Jeremy</strong> … Sam &lt;note: pseudonym of Regional Tutor Counsellor&gt; encouraged me and because we had a one to one meeting occasionally I felt that he really understood my problems and was giving me the best advice available. There is definitely a need for a personal counsellor, especially in the initial years, for students, but I feel that this need is more pronounced for a student with a disability. I never felt that I was bothering him when I called and I did not have to go through the routine of explaining everything about myself every time I telephoned - a situation I now find myself in when I call the regional office for help! … [ ] … A dedicated counsellor, especially one who can empathise with a disabled person's problems, is, I feel, a necessity for disabled students. This is what I found so interesting about the online counselling project….</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Jennifer - user of ‘Virtual Campus’, but without peer group or counselling services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Margaret wrote:</strong> In the light of your experience what would you say are the advantages /disadvantages of having access to a personally allocated Tutor Counsellor compared with access to any one of a team of Regional Advisors on duty at your regional centre as and when necessary?</td>
</tr>
</tbody>
</table>

**Jennifer replied:** That is actually a difficult question. The Regional team do a good job. A good rapport with my tutor would be the most beneficial. My needs for exams are known as is my Summer School needs I therefore do not require a counsellor to help organise them. Tutors do not have much knowledge or use in insisting on accessible classrooms - or knowledge about accessibility when it comes to planning day schools, it's possible a counsellor may have more success in attaining accessibility for me. <Name of Regional Centre> not being on the scene may not be fully aware of the problems.

**Margaret responded:** So my impression of what you are saying here is that you would regard a relationship of rapport with one known Tutor Counsellor as very valuable to support your studies? Have I understood correctly?

**Jennifer replied:** Yes - this could be done the way hospital wards now work. The staff at the Office for Students with Special needs could be assigned particular students so that we could get to know one another. It would be better than speaking to whoever picks up the phone in the office.
Table 7-5B (continued)
Perceptions of importance of relationship of rapport and continuity of care:
*Epistolary* interviews

<table>
<thead>
<tr>
<th>Joanna - user of ‘Virtual Campus’, but without peer group or counselling services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joanna … Being able to speak to someone you've met puts you more at ease. When you use regional student services you can end up with someone different every time. I recently had cause to complain about a tutor (and request an alternative tutor) - and felt unsure about raising the matter directly with regional office. I would rather have been able to have a more relaxed discussion with a known person. … [ ]</td>
</tr>
<tr>
<td>… Most people (I think) in my position will find that a known counsellor is preferable in that you don’t end up having to explain yourself each time you deal with a different person - this my be 'why a certain task is unsuitable' or 'why the nature of your disability restricts something'.</td>
</tr>
</tbody>
</table>

These first person extracts highlight the importance that these students attached to the establishment of rapport with a known person. The perception of continuity of care as an important factor in providing support emerged clearly from the interview data. In particular, the advantage of such a relationship in removing the necessity to re-state the nature of the problems experienced at an individual level was emphasised. Daniel’s comments on the potential advantage he could foresee for contact by e-mail raised an unexpected new point. His perception was that a question posed via text-based communication might be taken more seriously than one raised when speaking to a counsellor face-to-face. He felt that having communication available by CMC might thus encourage him to ask a question to which he needed an answer when he would not otherwise do so. This suggests that this might be another advantage of CMC in promoting student autonomy.

### 7.5.2.2 Barriers concerning use of telephone as medium of contact

A number of difficulties associated with using telephone as the medium of contact were reported. These fell into two categories. The first of these concerned physical difficulties, which made using telephones problematic, which were reported by students from the new sample. Two students reported hearing difficulties. One of these also reported speech
difficulties. Another student needed advance warning of phone calls. Table 7-6 presents extracts from the transcripts, which illustrate this issue.

### Table 7-6
Physical difficulties with using telephone

<table>
<thead>
<tr>
<th>Student quote – <em>face-to-face interview</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Susan:</strong> It’s, (.) well, as with everything with MS it <em>varies</em>. Yes, it <em>is</em> difficult. I have some hearing problems, erm, the telephone makes it worse. I get a lot of ringing noises and funny sounds when I’m using the telephone. …</td>
</tr>
<tr>
<td>Margaret: Right</td>
</tr>
<tr>
<td><strong>Susan:</strong> … I also intermittently have speech problems …</td>
</tr>
<tr>
<td>Margaret: Oh, right</td>
</tr>
<tr>
<td><strong>Susan:</strong> … Which can be difficult and a bit embarrassing on the telephone. I can sound very <em>drunk</em> (<em>said with a laugh</em>)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student quotes – <em>epistolary interviews</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Jennifer</strong> … Telephone - Has to be at a time when the tutor is available, usually evenings not always the best time for me. The physical use of a telephone increases my pain and therefore diminishes my power of concentration. It is impossible for me to take notes while on the telephone.</td>
</tr>
<tr>
<td><strong>Tom</strong> … and when I did have any conversations with my tutor counsellor it was me that telephoned him, not the other way round, so the conversations always took place at times that were convenient to me. This is important, because unexpected telephone calls from anyone needing specific information can be problematic if, for instance, I’m sat out in the garden getting a sun tan and the information they need is tucked away somewhere in my computer. If I know someone will be phoning, or I’m about to phone someone myself, I can be sat at my desk with the information on the PC monitor.</td>
</tr>
</tbody>
</table>

The physical problems experienced with using a telephone had created a further barrier to communication for these students, in particular for Susan and Jennifer. Tom could use the telephone, provided that he had advance notice. Voice contact by this medium might often be assumed to be a very useful mode of communication with university services (e.g. for telephone tutorials) for those who are housebound or have difficulty in attending face-to-face tutorials. However, these findings suggest that it would be unsafe to make such an assumption in every case.
The second category related to difficulties in using the medium for counselling support. Six students (more than half the sample) reported that they had on occasions experienced problems with the timing of phone calls. In some cases these were related to reconciling times convenient to the counsellor with times when the student felt well enough to make a sustained call. A further important issue that emerged was a reluctance to ‘bother’ the counsellor for help and advice, not wishing to be a nuisance, which was mentioned by almost half the sample (5 students). Examples are given in Tables 7-7A and 7-7B below.

Table 7-7A

Diffidence about ‘bothering’ a counsellor by telephone

*(Face-to-face interviews)*

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Anna:</strong></td>
<td>… it was just a case of getting past this little barrier. (…) You tended to think, ‘Oh dear, I’ve rung her at an inappropriate time’ …</td>
</tr>
<tr>
<td><strong>Sarah:</strong></td>
<td>… Well, sometimes you feel a bit like a nuisance to phone up with little queries all the time, especially if they’re really busy…</td>
</tr>
<tr>
<td><strong>Margaret:</strong></td>
<td>Right</td>
</tr>
<tr>
<td><strong>Sarah:</strong></td>
<td>… whereas by e-mail I think it’s not quite so intrusive, and they could reply at a time that was more convenient to them…. [ ]… I mean, I wouldn’t think twice about e-mailing someone about a query, whereas I would probably think twice about phoning up about a query</td>
</tr>
<tr>
<td><strong>Daniel:</strong></td>
<td>Erm, it’s a bit difficult to sort of try and (…) You can’t keep, you know (…) I don’t feel I can keep phoning my tutor. I do it every so often …</td>
</tr>
<tr>
<td><strong>Margaret:</strong></td>
<td>Mmm</td>
</tr>
<tr>
<td><strong>Daniel:</strong></td>
<td>… So I tend not to do it.</td>
</tr>
<tr>
<td><strong>Margaret:</strong></td>
<td>Why ( ) - can I just pull you up on that one and say why do you feel that you can’t keep phoning them? Is there some sort of er …</td>
</tr>
<tr>
<td><strong>Daniel:</strong></td>
<td>I, ahmm ( ) The thing about it was, before I was ill I was a &lt;name of occupation&gt;…. [ ] … which meant that for me it was a question of, I know what its like when you’re just sitting down to dinner and some idiot rings you up and your dinners getting cold; and you’ve got to be kind. …</td>
</tr>
</tbody>
</table>
Table 7-7B
Diffidence about ‘bothering’ a counsellor by telephone
(*Epistolary* interviews)

<table>
<thead>
<tr>
<th>Epistolary interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gareth:</strong> … [ ] and I would not at that time have thought of ‘bothering’ a counsellor unless I had a particular problem.</td>
</tr>
<tr>
<td><strong>Tom:</strong> I have always had a feeling of awkwardness when telephoning tutors, because of the demands I was making on their time. E-mail can be collected and answered at times convenient to the tutor/counsellor, as well as to the student.</td>
</tr>
</tbody>
</table>

Three of the four interviewees drawn from Intervention Study 2 mentioned the advantage of using asynchronous e-mail rather than telephone to overcome this difficulty since the counsellor could pick up and reply to messages at her own convenience. This method was also regarded as potentially advantageous by all three interviewees of the new sample who were users of CMC on the open ‘Virtual Campus’. Another advantage of CMC cited by four students (three students from Intervention Study 2 and one student from the new sample) was that using asynchronous e-mail permitted a more considered approach than telephone, and three commented favourably on the value of a written record of the communication for future reference. Both of these perceived advantages perhaps reflect the difficulties experienced with fatigue and concentration identified as problems for participants in the Exploratory Study.

7.5.2.3 CMC and building a relationship of rapport

Looking next at the specific issue of developing rapport with a counsellor via CMC, the four students from Intervention Study 2 all made comments that suggest that they felt that interactive communication within the environment of the group conference had promoted feelings of equality between student and counsellor. Her informal participation in the
student-led topics was considered to have been very important in promoting confidence to approach her by one to one e-mail by all four of this sample. Table 7-8 below sets out some of the ways in which the students perceived that this had been achieved.

| Table 7-8
| **Student perceptions of on-line counsellor through her messages** |
| --- | --- |
| Counsellor had a friendly, caring and open approach | Anna, Sarah, Gareth, Jeremy (4 students) |
| Informal contact in peer group conference gave a personal touch which made her more approachable | Anna, Sarah, Gareth, Jeremy (4 students) |
| Revealing some personal information about herself (e.g. holiday plans) in group environment demonstrates openness | Anna, Gareth, Jeremy (3 students) |
| Counsellor demonstrated an understanding of disability issues | Jeremy |
| Willingness to ask students for help with technical matters in the group environment (as a novice user) was equalising, made her feel one of the group | Anna |
| Observing counsellor’s interactions with other members of the group (in the peer group conference) helped to boost confidence in her | Sarah |
| Counsellor’s responses demonstrated a deep interest in people | Gareth |
| Counsellor took a pro-active stance in suggesting possible solutions to problems discussed in group rather than just reacting to questions asked | Jeremy |
| The formatting of the message on the page as well as choice of words helps to form a mental image of the person. | Gareth, Jeremy (2 students) |
| Impressions of personality were built up by reading contributions over a period of time. | Jeremy |
| Using e-mail could overcome barriers of attitude when compared to using the telephone. | Anna, Sarah, Jeremy (3 students) |

A central feature of these responses is that the students had felt able to relate to the counsellor at a personal level. Her writing style and use of language had given an impression of openness and friendliness. Gareth (a participant in Intervention Study 2) provided a specific example of how he perceived her contributions in relation to a
particular message. The extract is given in Table 7-9 below.

Table 7-9
Student analysis of on-line counsellor’s message
Extract from transcript of Gareth’s epistolary interview

<table>
<thead>
<tr>
<th>Gareth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gareth replied:</strong> OK, here's an example. This is a 'solo' rather than part of an interactive conversation. [ ] …</td>
</tr>
<tr>
<td><strong>Subject 'Weekend', Doorway Counselling,</strong>&lt;br&gt;<strong>&lt;name of counsellor&gt; ,oufcnt1.open.ac.uk writes:</strong></td>
</tr>
<tr>
<td>Hello, It's Jill here !!</td>
</tr>
<tr>
<td>The rain has arrived just in time for my trip to &lt;name of location&gt; to see my ageing ma and pa !! Oh well, ho hum. So I’ll be out of the ether until Tuesday.</td>
</tr>
<tr>
<td>Have a good weekend everyone and don’t forget to build those treats into your revision timetables &lt;grin&gt;.</td>
</tr>
<tr>
<td>See you soon, Jill (end of message)</td>
</tr>
<tr>
<td><strong>Gareth</strong> … ‘Jill 'packages' some excellent study advice in a lively, friendly note with a chatty style. The double exclamation marks say &quot;energy&quot; to me, as if she's bouncing on her toes as she comes in. Revealing personal information shows openness and encourages us to do the same in return. I love the 'out of the ether' metaphor - clever, individualistic, witty. … [ ] … Further on in the thread (Re(5): Weekend), the topic has turned to stress reduction. Jill takes an interest in the strategies suggested by members of the group, and says:</td>
</tr>
<tr>
<td>&quot;I think the secret is to try as many methods of stress reduction as possible until you find one or two that work for you. We’re all so different (thank goodness &lt;grin&gt;), that different things work or don’t work for us.&quot;</td>
</tr>
<tr>
<td>This suggests to me that she is interested in people above all, and revels in their variety. Note where the grin comes - focusing on us’….</td>
</tr>
</tbody>
</table>

Gareth’s thoughtful response in itself provides a good illustration of the value of interview by e-mail using an off-line reader facility. He had had time to search through the counsellor’s messages and to analyse for himself the way in which he perceived that rapport has been built. His comments demonstrate that it is indeed possible to convey the personality of the writer using text and punctuation and that the counsellor had succeeded in doing so to good effect. Three of the four students mentioned that she had been willing
to reveal personal information about herself such as her holiday plans. The researcher’s observation was that such personal information in the conference messages was at a relatively superficial level. Nevertheless, it was sufficient to have fostered a student perception of approachability. One student commented that the counsellor had on occasions been willing to ask for and receive technical help from the students on the use of the medium. She had been prepared to admit to being a novice user of CMC. The student commented that this was equalising and made it feel as if the counsellor was ‘one of us’. This comment highlights an important point. It illustrates that an ‘empathic community’ had already formed in the DOORway conference and it was necessary for the counsellor to be accepted by the student group. This could be a tough situation for a counsellor. In Jill’s case her open and friendly approach in written communication had been successful in helping to build students’ trust and confidence in her.

7.5.2.4 Perceived advantages of CMC in an emotionally stressful situation

Building on findings from Intervention Study 2, the interview discussions of student preferences for communication routes in an emotionally difficult situation elicited some surprising responses, which have been summarised and grouped in Table 7-10, attributed to the students concerned. Firstly those falling into Category A relate to perceived barriers encountered when using telephone as the medium of contact with an educational counsellor. Those in Category B are concerned with perceived advantages for using e-mail in such a situation. Finally Category C summarises interviewee preferences for using e-mail as a way to formulate a more considered approach/response in such circumstances.
Table 7-10
Student preferences for use of e-mail in an emotionally difficult situation

<table>
<thead>
<tr>
<th>Category A: Barriers of attitude when using telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-mail removes barriers of attitude which can arise in telephone contact</td>
</tr>
<tr>
<td>E-mail is preferable to telephone in such circumstances as student finds it difficult to ‘think on his feet’</td>
</tr>
<tr>
<td>Finds telephone assistance quite impersonal</td>
</tr>
<tr>
<td>If a trusting relationship already existed face-to-face would be first preference, followed by e-mail with telephone least preferred option</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category B: E-mail relieves embarrassment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text based communication is less embarrassing than face-to-face in an emotionally difficult situation. Communication via a computer screen helps to make communication less emotionally stressful</td>
</tr>
<tr>
<td>Would find it easier to write about an emotionally difficult situation than to say it</td>
</tr>
<tr>
<td>Face-to-face would be stressful because of worry about not feeling well enough to sustain a conversation over a period of time, or that memory might fail</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category C: Use of e-mail permits thought out approach/response</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-mail is easier because the message can be prepared over time and one can make sure all points are covered. This is especially important when not feeling well</td>
</tr>
<tr>
<td>E-mail is preferable because writing helps to organise thoughts. It may be written whenever the student has the energy</td>
</tr>
<tr>
<td>Would prefer e-mail to telephone as it allows a more detailed and considered approach</td>
</tr>
</tbody>
</table>

The results in all these categories suggest that when the students had not been feeling well, the use of e-mail had provided a way in which they could be more certain of clearly expressing their needs than when using voice. By inference, the data suggests that the use of text-based e-mail had permitted a greater degree of control for the student in setting out the nature of the problem than communication by voice. It had helped to eliminate student embarrassment and the possible perception of being pitied (irrespective of whether this was actually the case), which might happen in a face-to-face or telephone conversation. Anna’s
comments illustrate this issue particularly well, and a verbatim extract from her ‘face-to-face’ interview transcript is given in Table 7-11.

Table 7-11
Extract from transcript of face-to-face interview relating to use of CMC for contact with a counsellor in an emotionally distressing situation

| Anna: | … because I’m not very good at showing emotions. (.) I’m inclined to shy away. If I was very upset about something emotionally I’d hide it … |
| Margaret: | Right (nods understanding) |
| Anna: | … I would prefer not to show it. |
| Margaret: | So face-to-face contact would be more difficult in these circumstances? |
| Anna: | Yes! In an emotional situation, yes. It would be extremely difficult for me. I found when I was at <name of university> Summer School and had that problem, and I finally sat and discussed - Jack was with me (…) discussed with the course director, whoever she was, and I was talking to her and I just felt so embarrassed I burst into tears … |
| Margaret: | Right (nods sympathetically) … |
| Anna: | …. you know … a big girl like me! (self-deprecating laugh). Yes, a big girl like me. It's not easy. (…) So, yes, if it had been all on the computer screen I’d probably been quite happy about it. … |
| Margaret: | So in a way, (.) it takes the emotion from the situation, |
| Anna: | Yes!! (emphatically) |
| Margaret: | …… it helps you to communicate better? (enquiringly) … |
| Anna: | Yes. |

Anna’s comments suggest that communication by CMC had provided a distancing element, which had enabled her to feel more in control of the situation when feeling emotionally distressed, thus promoting perceptions of enhanced autonomy. There is a dichotomy occurring here. On the one hand data gathered during the Intervention Studies suggests that CMC was providing an empathic medium for communication. On the other hand, comments in the Interview Study suggest that there may be a distancing element inherent in text based CMC which can be beneficial in certain situations. This is a surprising finding. It appears to be a unique feature of communication by this
route that it can be at the same time both intimate and distancing. It permits direct ‘brain to brain’ communication, which can be equalising for those with disabilities. There are no visual or aural cues to trigger perceived barriers of attitude, such as those identified by Roulstone (1994) encountered in the workplace environment in everyday life.

7.5.2.5 Choice of options for educational counselling support

The seven students from the sample who had access to the ‘Virtual Campus’ (four from Intervention Study 2 and three from the new sample) were each given a list of possible options for educational counselling support and asked to rank them in order of preference. These options are set out below.

| Option 1 | Individually allocated Tutor Counsellor by telephone or face-to-face |
| Option 2 | One of a team of regional advisors (student services) on a ‘point of need’ basis by telephone |
| Option 3 | One to one e-mail access to one named on-line counsellor |
| Option 4 | Access to one named counsellor in both a closed peer group conference environment and by one to one e-mail |
| Option 5 | E-mail access to any one of a team of regional advisors (student services) on a ‘point of need’ basis |
| Option 6 | Access to an open regional support conference on the ‘Virtual Campus’ (run by regional advisors on a ‘point of need’ basis) |

Table 7-12 presents a summary of the choices made.
Table 7-12
Collated rankings of options suggested by researcher for sample
with network connectivity (N = 7)

<table>
<thead>
<tr>
<th>Rankings</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No of students</td>
<td>No of students</td>
<td>No of students</td>
<td>No of students</td>
<td>No of students</td>
<td>No of students</td>
</tr>
<tr>
<td>Option 1</td>
<td>2</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Option 2</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Option 3</td>
<td>-</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Option 4</td>
<td>5</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Option 5</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Option 6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

The data from Table 7-12 shows clearly that the first choice for the majority of this sub-sample would be Option 4, access to one named counsellor in both a closed peer group conference environment and by one to one e-mail (five of the seven students). The other two (1 from Intervention Study 2 and one from the new sample) ranked this option as their second choice, with a first preference being for Option 2, access to an individually allocated Tutor Counsellor face-to-face’ or by telephone. Both of the latter ranked Option 1 as their second choice. The three students from the new sample with access to the ‘Virtual Campus’ ranked the potential use of CMC for access to an educational counsellor highly. These students reported a reduction of isolation from their access to fellow students in the openly available conferences. However, the findings suggest that they were still experiencing difficulties with their use of educational services via traditional routes.
7.5.3 The ‘Virtual Campus’

In this section an appraisal is made of the data relating to the use of the ‘Virtual Campus’ for contact with other students. Firstly the role of the peer group conference area is considered. Secondly the data concerning the experience and expressed interest of the new sample is discussed.

7.5.3.1 The role of peer support in the DOORway conference topics

The findings suggest that another means of getting to know the counsellor is important to the building of rapport. People want to feel that they ‘know’ someone before they can trust them. In this respect the peer group conference area (DOORway) had played a central role in the provision of the use of CMC in student support during the pilot project. It had being important both for peer support and as an environment in which to provide access to an educational counsellor. Table 7-13 presents extracts from student comments in relation to the peer support element. These student comments illustrate the high value placed on support from their peers in an empathic on-line community, in addition to its value as an area for contact with the on-line counsellor.
Table 7-13
Perceptions of communication in peer group conference (DOORway):
Students from Intervention Study 2

Face-to-face interview

Anna: Ahm, (.) (slowly) Because there’s a group of peers, (.) it’s closed (.) and yet there’s people there who can understand, you know, who have similar sorts of problems … [ ]

… (Later in conversation) I would have been happy using the conferencing system regardless …

Margaret: Right (nods)

Anna: … but I still feel that the (.) having DOORway as a very gentle introduction to it was extremely important. Yes!

Epistolary interviews

Gareth

Gareth wrote: With my health problems, I would never have branched out into course and other conferences as I have done, were it not for DOORway.

Margaret responded: So my understanding of what you are saying here is that the peer group support in DOORway has had an influence in developing your use of the "Virtual Campus"?

Gareth replied: 'Yes, in fact I would say it was the main influence; probably the sine qua non.' …

Margaret responded: I’d like to explore this just a bit further Gareth and ask you to tell me if possible in what ways it was the main influence - in general terms, of course, so as not to breach confidentiality.

Gareth replied: The other members of DOORway gave me great encouragement, by example, to persevere in adversity. It wasn't so much the cliché 'it helps to know there's always someone worse off than yourself' (I don't believe it does help much anyway) … no, it was the display of 'guts', and the cheerfulness and friendliness and caring, that never ceased to amaze and encourage me. … [ ] … DOORway is a place where people understand what it's like to feel rotten, and where we can talk about our particular personal problems in a way which we might not want to or which might be misunderstood in the wide open spaces of the virtual campus. It is a place where humanity shines through the technology. … [ ] … The help I have received in DOORway, as a beginner in CMC, has inspired me to try to help others in my exploration of the virtual campus. … [ ] …

Jeremy

Jeremy: …’it is apparent that being part of DOORway acts as a ‘softener’ for people who might find it a bit off-putting to express themselves online. The peer support from the group is tremendous and can have very practical results. For instance, I have received help from people in the group when I needed to approach the medical profession with a complaint. The email support and advice I received encouraged me to take it further, successfully I might add.’ …
7.5.3.2 Experience and opinions of the new sample in relation to the ‘Virtual Campus’

Three of the four students from new sample without network connectivity rated the potential value of access to a peer group conference area highly, as did two of the three with network connectivity. Examples of comments are given in Tables 7-13A and 13B.

Table 7-13A
Extracts relating to possible access to a peer group conference on-line
(Face-to-face interviews)

<table>
<thead>
<tr>
<th>New sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel (using computer on stand alone basis)</td>
</tr>
<tr>
<td><strong>Daniel:</strong> Yes; it sort of says ‘It’s OK, you’re not alone in this’. There is this, especially when you’re disabled, especially when you’re isolated in that sense. I mean I’ve got two - there were four of us, no five, who started together, two have dropped out - erm, that’s a nuisance because you haven’t got any other study buddies to back it up with; but if you’ve got somebody that you can, that ideally, that you don’t have to see them, but you can talk to them…</td>
</tr>
<tr>
<td><strong>Margaret:</strong> Yes</td>
</tr>
<tr>
<td><strong>Daniel:</strong> … that seems a better way of doing it.</td>
</tr>
<tr>
<td>Mary (previously non-computer user; computer very recently acquired)</td>
</tr>
<tr>
<td><strong>Mary:</strong> You see that’s what I really miss, not being able to discuss things with other people…</td>
</tr>
<tr>
<td><strong>Margaret:</strong> Yes</td>
</tr>
<tr>
<td><strong>Mary:</strong> … Friends of mine, they sound interested in what I’m doing, but they haven’t a clue about what I’m talking about (laughs). So if you could talk to other people who know and understand what I’m saying… It would be lovely.</td>
</tr>
<tr>
<td>James (non-computer user)</td>
</tr>
<tr>
<td><strong>James:</strong> I think that becomes, only becomes of interest really if its (…) more specifically based. For example, if you’re in a wheelchair I can understand (…) erm (…) regardless of what’s put you in a wheelchair (…) your priority is not just the mental side, but the physical side as well…</td>
</tr>
<tr>
<td><strong>Margaret:</strong> Mmm</td>
</tr>
<tr>
<td><strong>James:</strong> … of problems. And in my case to talk to somebody else with &lt;name of medical condition&gt; would make a lot more sense that somebody suffering from MS or whether, er (…) because the, erm, difficulties which you face with each different handicap are pretty specific. …</td>
</tr>
</tbody>
</table>
Table 7-13B
Extracts relating to possible access to a peer group conference on-line
(Epistolary interviews)

(Computer users with network connectivity)

Jennifer

_Margaret wrote:_ On the subject of the different types of conference on the 'Virtual Campus', supposing the option were available, would access to a closed confidential conference area for mutual support with others facing similar difficulties in their studies to yourself (for a variety of severe health difficulties) be a facility you would be likely to be interested in using - or not? Please say a bit about the reasons for your answer.

_Jennifer replies:_ Yes it would be very good. I don't like broadcasting (sic) my disability but sometime the reason I'm having a problem is due to the disability, then it would be good to speak to someone who would understand. I also may be able to help someone else in the same boat.

Joanna

_Joanna replies:_ If there was such a conference available I would most certainly be interested. I would be looking for private discussion with either other students or nominated officials who had first-hand experience of some of the situations that I could find myself in related to study. It can often be difficult to know who to turn to for advice.

Tom

_Margaret wrote:_ If the option were to be available, would access to a closed confidential conference area for mutual support with others facing similar difficulties in their studies to yourself (for a variety of severe health difficulties) be a facility you would be likely to be interested in using?

_Tom replies:_ Absolutely not. I have had a look in one or two such conferences in the past, which were open conferences, and found that the discussions focused too much on 'oh dear, look at me, how will I manage?', followed by 'you're lucky ... look at me!' I may have a disability which affects the way that I study, but a working mother would struggle too, in a different way. Such a conference may seem to be a good idea, but in my experience they do not work as planned.

Tom, one of the new on-line sample of students, stated emphatically that he would not wish to use such a conference as a ‘student only’ area. This was unexpected. However, later in the interview he amended this opinion, regarding such an area as potentially valuable if a counsellor/advisor were also to be present. This suggests that for some students the role of the professional might be regarded as important in guiding discussion. James (no computer access) would only find it of potential interest if participants were drawn from those suffering from his own particular health condition. This is a surprising
finding, highlighting a different scenario of support, more akin to the medically based Internet Listservs described by Preece (1998).

All three students from the new sample who were users of the open facilities on the ‘Virtual Campus’ reported beneficial effects on autonomy and enjoyment of their studies as a result of contact with other students. It had reduced their isolation. In respect of motivation Tom commented (somewhat tongue in cheek) that he had been sidetracked from his studies by using the medium for social contact. In the case of those without network connectivity, three of the four interviewees felt that access to the ‘Virtual Campus’ would be potentially valuable to them. None of this group had previously been aware in any detail of what facilities were available. Three of these four would regard the costs involved as a barrier to access, as explained in the following section.

7.5.4 Issues raised by students

The issue of financial constraints, both the capital cost of buying equipment and running costs was raised by three of the new sample during the course of the face-to-face interviews. In one case (Mary) this arose in relation to her worries over running costs for Internet access for the newly acquired computer bought for her by members of her family. In the other two cases (Daniel and James) it was mentioned in response to an invitation by the researcher to highlight any issues felt to be important to their studies that had not been already raised. All these students stressed the barrier created by low income for the acquisition and use of computing equipment, which they considered would be potentially valuable aids to their studies. Of the three Daniel had access to a computer on a ‘stand alone’ basis which was also used in her work by his wife; Mary had been provided with a computer as a gift only weeks prior to interview after studying for a number of years without one. James did not have access to a computer and did not feel that the expense of
acquiring one would be justified. Both Daniel and Mary had severe difficulty with handwriting, which Daniel had addressed by using word processing. Mary was much looking forward to using this facility. James could write, but suffered from a high level of fatigue when doing so. However, his wife provided him with a secretarial service, typing all his assignments for him, which had provided a different way to address his need.

One further unexpected issue arose from comments made by a carer during informal conversation prior to a formal face-to-face interview. Jack, Anna’s partner, volunteered the information that her involvement in the CMC project had indirectly had the effect of improving his own quality of life. He commented that the social contact with others, which Anna had lost as a result of her health difficulties, had been restored by her use of computer conferencing. This had had the beneficial result of making her less dependent on him in this respect. Here we find corroboration of the value of CMC in enhancing student autonomy from another source. This raises an interesting lead for future work into the potential cascade effects for carers of such provision.

7.6 Reflection

At this point it is valuable to return again to the research questions and to consider what emerged from the findings of this set of interviews, looking firstly at the original question:

- “What are the barriers to effective study for students with long-term health problems?”

The findings of this set of Personal Interviews were consistent with those of the Exploratory Study in terms of the four previously identified barriers, these being fatigue, manual dexterity, academic and social isolation, together with a need for better interactive communication with support agencies. In relation to the last of these, the second question
addressed was:

- “What conditions facilitate good communication with an educational counsellor?”

Here two interlinked issues emerged as important for the whole sample, these being the development of a relationship of rapport with a counsellor and continuity of contact with one known person. Seven of the eleven students interviewed considered a relationship of rapport with an educational counsellor to be very important and a further three students regarded it as quite important. Continuity of contact was considered important to minimise the need to repeatedly explain the nature of problems experienced and help required. Some interview data suggests that difficulties had arisen in this respect under the new system of access to the duty advisor at a Regional Centre by telephone. Having to re-state their needs each time contact was made when using a duty advisor (rather than one known person) was reported as a perceived barrier. The issue is at least partially concerned with another barrier, that of fatigue, in that these students needed to conserve their energy as far as possible. Having to repeat explanations time and time again was perceived as wasteful of limited physical and mental energy. These findings suggest that this might have resulted in expenditure of limited energy, which could have been usefully channelled into the more productive tasks of the study process. There is an issue of personal choice involved here. Students need to weigh for themselves the relative advantages/disadvantages of the speediness of response available when speaking to a duty advisor by telephone at the Regional Centre against waiting for perhaps few hours or a day for a response to an e-mail from a personally allocated on-line counsellor.

A further issue related to this question concerns difficulties encountered with use of the telephone as a medium for communication with support services. This fell into two
categories, these being: (i) actual physical difficulties with using a telephone and (ii) perceived problems associated with the timing of phone calls, including a worry about intruding on a counsellor’s time (not wishing to be a nuisance). Here the interactive interviews were invaluable in illuminating more clearly the issues about physical barriers to using the telephone (Table 7-6). Students’ comments also support the inference (gleaned from the earlier studies) that the students had frequently held back from telephoning an advisor for fear of being a nuisance (Tables 7-7A and 7B). The comments of interviewees who had participated in Intervention Study 2 suggest that the use of CMC had been successful in addressing this problem since students knew that messages could be picked up and replied to at her convenience. This was particularly so once counsellor-student rapport had been built up in the group environment of the DOORway conference, which had had the effect of promoting confidence to approach her. The combination of a relationship of rapport with fast and easy text-based communication provided by CMC was perceived as having provided an effective method of contact. This is borne out by the fact that, given a list of possible options for access to educational counselling support, five of the seven interviewees who had had access to the ‘Virtual Campus’ ranked the combination of access to a counsellor within a peer group conference and by one to one e-mail as their first choice. The other two ranked this option as their second choice, with a first preference being for access to an individually allocated Tutor Counsellor face-to-face or by telephone. This finding also illustrates the high importance attached to building a relationship with a counsellor for these participants.

Daniel’s comments (see Table 7-6A) provided a further clue to reasons why text-based communication might be preferred to telephone contact. His comments are surprising because they suggest that a fear of appearing naïve may inhibit some students from asking questions when using voice communication. Daniel infers that raising the question using
text-based CMC might encourage the tutor (or counsellor) to take it seriously, since this type of contact shows that the student has thought through the issue. The finding of the value of CMC for communication in an emotionally stressful situation supports that of the main study. It suggests a unique feature of the medium is its ability to provide a communication route that is at the same time intimate and distancing. Again this is a surprising finding.

The third question addressed by the study was:

- “What are the perceived effects of access to other conferencing facilities available on the ‘Virtual Campus’?”

The findings from interviews with participants drawn from Intervention Study 2 support inferences drawn from that study of the benefits gained from the sharing of their experiences with their peers in the DOORway conference area (see Table 7-13). Interviewee comments suggest that participation in this area was regarded as having provided a gentle introduction to the wider environment of the ‘Virtual Campus’ and having promoted confidence to participate more widely. Two of the three interviewees from the new sample with access to the ‘Virtual Campus’ also said that they would consider access to such an area to be potentially valuable, both for peer support and access to an educational counsellor. The findings suggest that isolation had been reduced for this sub-sample, but problems with counselling support remained. Three out of four of those without network connectivity envisaged potential value to be gained from access to the facilities available on the ‘Virtual Campus’. The fourth (who was not using computers at all) took the view that the medium might diminish individuality. He foresaw discussion as possibly standardising views rather than as a medium for debate. He raised the possibility of plagiarism of work as a further reason for not wishing to use it. The latter two findings
were unexpected. They raise issues about possible reasons for non-computer use that merit further investigation.

Three of the students not connected to the network raised the important issue of a further barrier to access, the hurdle of financial cost. This had previously been identified in the early study as a potential problem because of low income. Despite an awareness of potential benefits, these students stressed that it would only be possible to gain from access to CMC if one could afford the capital and running costs involved. It is a preconception about usage that needs addressing.

7.7 Conclusions

In summary the results suggest that the difficulties identified by the Exploratory Study also represented real barriers to study for the new sample of students interviewed. The interviews helped to clarify the nature of barriers encountered with using the telephone as a medium of contact with advisors. The results suggest that CMC could provide a way to overcome two worries in connection with initiating contact with a counsellor. These were the possibility of: (i) being perceived as a nuisance to a counsellor when using the telephone as the medium of contact, and (ii) being perceived as naïve (or uninformed) when raising a question via that route. The findings from the study support the inference from Intervention Study 2 that use of text-based communication via e-mail was perceived as particularly helpful in an emotionally distressing situation. This is particularly surprising since such a view may be counter-intuitive for the able-bodied. The reason for this finding appears to concern the relief of student embarrassment and promoting a greater feeling of control over the transaction.
In relation to the group element of counselling support offered in the main study, student comments suggest that the provision of educational counselling services within the environment of a confidential peer group conference area had promoted rapport and confidence to approach the counsellor for help/advice. The results illustrate ways in which the counsellor’s informal participation in the student-led topics of this area had been a major factor in achieving this successful relationship. Her open and friendly writing style had been an important element in emphasising approachability, as was her willingness to give personal information about such things as holidays planned. The peer group conference was also regarded as a valued avenue for confidential sharing of information relating to special needs. Additionally, student comments suggest that it had played a part in building confidence to participate in the open Self Help Groups. Taken together, these results support the findings of the main study. They suggest that the role of the peer group conference had been pivotal to the successful use of CMC for this group of students.

Finally the barrier of financial cost was an important issue raised by participants in the study without network connectivity.

Overall, the findings from this set of interviews support the findings from the main study that suggested that the use of CMC could a valuable way to address the barriers to study identified by the Exploratory Study for this group of participants. This is an encouraging result. It suggests that this mode of communication could provide a possible way to improve the quality of the study experience for students with long-term health problems, provided that the hurdle of cost could be overcome. James’ comments however highlight the possibility that some students with long-term health problems may be choosing not to use this route for contact with the institution, for a variety of reasons not always concerned with their disability. This finding is discussed further in Chapter 8.5.
In the final chapter of the thesis, Chapter 8 a critical appraisal is made of the findings of this series of studies in the light of the research questions and of the literature reviewed.
Chapter 8: Discussion and Conclusions

8.1 Introduction

This chapter draws together the findings from the series of studies undertaken in relation to the research questions and in the light of the literature in the three fields of interest involved. These are Disability Studies (in particular models of disability and support for disabled students), CMC, and Educational Counselling and Guidance. To recapitulate, the approach taken to the work was influenced by an Emancipatory research model (as described in Chapter 3.2). The initial main research question was:

- “What are the barriers to effective study faced by undergraduate distance learners with long-term health problems?”

Building on the findings of the Exploratory Study, this led to the second main question:

- “How can the identified barriers be addressed?”

An exploratory framework was adopted as a suitable structure to investigate these issues.

The findings relating to the first of these research questions are discussed in Section 8.2. The four common barriers to study identified for the majority of volunteer respondents by the findings of the first study in the series (the postal survey) are considered in the context of the Medical and Social models of disability (see Chapter 2.1-2). Section 8.3 relates to the second of the research questions. An appraisal is made of the effects of the measures taken to address the identified barriers for participants in the exploratory CMC studies. In the main study (Intervention Study 2) these included the provision of access to the services of a personally allocated educational counsellor (both by e-mail and in a private peer group conference) within the wider environment of a ‘Virtual Campus’. Section 8.4 considers the
barrier of cost of using computers for students with disabilities on low incomes (suggested by the findings of the postal survey and voluntarily raised by participants in the personal interviews at the end of the main study). Section 8.5 reflects on the lessons learned from the research process. This is followed in Section 8.6 by a discussion on the extent to which the studies can be considered to fulfil recent definitions of an *Emancipatory* research model, in the light of recent refinements proposed by Oliver (1997). Section 8.7 presents the conclusions drawn from the findings. Finally, in Section 8.8 areas for future research are suggested.

### 8.2 Four common barriers to study identified

The postal survey of volunteers (chosen as the method of data collection most suited to obtain a broad-brush picture of the experience of study of students in the target group) generated a total of 281 completed questionnaires. This provided a large body of data for analysis. The findings from this study suggested the existence of four common barriers to study for this sample of undergraduate distance learners with long-term health problems. These are re-stated below.

- Incapacitating fatigue (affecting all aspects of the study process)
- Difficulty with handwriting (for a number of reasons)
- Isolation in relation to the study process
- A need for better communication with support services in the university

These barriers are discussed below in the context of the *Medical* and *Social* models of disability described in Chapter 2.2.
8.2.1 Severe fatigue

Incapacitating fatigue ranks first in order of magnitude of the identified barriers to study for the majority of participants in the Exploratory Study because its effects were so widespread across all aspects of the study process (see Chapter 4, Table 4-26). This effect is considered further in Sections 8.2.2-4 in the context of the other barriers encountered. These students were all sufferers from serious medical conditions (e.g. MS, ME, Arthritis) that are known to fluctuate in severity over time. Nevertheless, the levels of fatigue reported were much higher than expected. The fact that the students were persevering in their studies despite such a seemingly daunting obstacle is indicative of a high level of motivation and positive attitude. It also suggests that distance education can provide one of the best options for this important aspect of life for these participants. Any measures that could provide a way to conserve energy by reducing physical effort might prove valuable.

8.2.2 Difficulty with handwriting

The findings from both the initial postal survey and later personal interviews (see Chapter 4, Table 4-4, 4-5, 4-7; and Chapter 7, Table 7-3) suggested that this problem was affecting participants suffering from a range of different medical conditions for a variety of reasons. These included loss of grip through neurological problems, weakness of muscles, and/or pain and swelling. Such difficulties create barriers that can adversely affect a number of elements of the study process. These include note taking (both in home study and at face-to-face tutorials and residential schools - for those able to attend), the preparation of work for marked assignments, and the completion of examinations.

Findings from the personal interviews suggest that looking for a way to address this barrier
might be a motivating factor for those in this category to access a computer for word processing (see Table 7-3A). Six of the seven of the new sample of interviewees described ways in which they had used computers as a tool to overcome difficulties arising from such problems as pain, impaired grip and illegible handwriting. Their comments reveal considerable personal resourcefulness in the methods adopted to overcome their particular difficulty. Joanna’s description provides a useful illustration of the way in which use of a keyboard can be achieved even when experiencing a great deal of pain.

Joanna ‘I try to make best use of computer equipment to do most of my work, (writing with a pen can be a painful chore although a fountain pen helps less pressure on the wrist so I tend to type most things). Even when my wrists are swollen/painful I can still make use of a keyboard by using two rubber ended pencils to press keys, luckily this isn’t too often’

(Extract from Joanna’s epistolary interview)

The fact that such severe difficulties related to handwriting were described by participants suffering from a wide range of different conditions (e.g. MS, Arthritis, ME, Spinal problems, Lupus Erythema) was unexpected. Analysis of the data from the postal survey revealed that 54% of the whole sample perceived this as posing a major problem in connection with their studies. It was also an issue raised in the freeform comments by 174 of the survey sample. When taken together with the greater detail provided by the personal interviews, this raises the possibility that barrier to study may be widespread. This is an issue that might be worthwhile for support staff to discuss with students in this category at the outset of their studies. It presents a lead for future research in this area.

Both of the barriers discussed above (severe fatigue and difficulty with handwriting) are directly concerned with the medical conditions of the students and in this sense may be said to fall under the heading of a Medical model of disability. Traditionally decisions on individual accommodations to address this type of problem have been taken by a
professional following an assessment of need. This is the facet of a medical model considered most unacceptable by disabled activists (see Chapter 2.2 Finkelstein, 1981a and Oliver, 1983). They prefer problems to be addressed taking an approach that regards responsibility for the removal of barriers to participation in a society designed for the able-bodied as lying within the domain of society rather than the individual (the Social model). However, it was problematic to envisage how a Social barriers model could address these two difficulties for this category of students without individual accommodations for special need being taken into account.

8.2.3 Isolation (in relation to study)

A number of participants reported that they could never attend face-to-face tutorials (N = 66), and residential schools (N = 85). Of the remainder a considerable number reported being able to attend only infrequently and with great difficulty (see Chapter 4.3.2; Table 4-15; and Chapter 7, Table 7-2). This is an aspect of study considered to be important in relation to the development of skills associated with independent learning. These students were being deprived of valuable interactive discussion with their tutors and peers. This barrier can be considered to lie partially under the heading of a Medical model of disability in the sense that some participants are prohibited from attendance at face-to-face venues by the limitations of their condition, in particular incapacitating fatigue. However, this is an issue that lends itself to seeking solutions that can accommodate the need using a route that is equally applicable to all distance learners (a Social barriers approach). A review of the literature in the field of CMC suggested that the use of this medium to support study for students in tertiary education studying at a distance could prove beneficial to address isolation (see Chapter 2.3.3)
8.2.4 A need for better communication with support services

The final barrier (a need for better communication with support services) falls into the category of those suitable to be addressed using a Social model. In this case the identification of possible solutions to address broad areas of common need can be considered at an institutional level. The findings of the Exploratory Study in all of the aspects addressed by the questionnaire suggested that there was a need for improved communication with support services. The results highlighted a lack of awareness on the part of questionnaire respondents of what additional facilities were available to address their special needs. For example, in the case of home study this included such simple aids as comb bound units and material on videotape (see Chapter 4, Table 4-7). Conversely, a need for better institutional understanding of the types of special provision necessary at face-to-face venues (tutorials and residential schools) was highlighted. This can be considered under two headings: (i) the needs of students when attending face-to-face meetings and (ii) the provision of tutorial support for those unable to attend such meetings infrequently, or not able to attend at all.

In the case of the first of these categories, examples of improved facilities needed at face-to-face tutorials mentioned by respondents to the questionnaires included such issues as the necessity for easy parking close to the venue entrance, the need for ground floor tutorial rooms or rooms close to a lift with easy wheelchair access, and easy access to toilet facilities (see Chapter 4, Table 4-11). At residential schools a variety of special needs requirements were mentioned, and here the results also revealed a particular variation in experience between the two largest samples (MS [N = 110] and ME [N = 87]). In the case of the MS sample, the findings suggested that those attending with a helper were coping better with most of the aspects of attendance investigated (as measured on the ‘Coping Scale’) than those who had attended without a helper. However, a similar improvement
was not noted in the case of the ME sample between those attending with and without a helper.

An analysis of the data relating to the other aspects of study explored also revealed variations between illness categories in participant perceptions of ability to cope with a variety of the elements investigated (see Chapter 4 Tables 4-4 and 4-5; 4-9 and 4-10; 4-12 and 4-13; 4-16 and 4-17). These findings suggest that it might be beneficial for the institution to keep a record of the nature of the illnesses suffered by individual students. Such information could facilitate a more informed understanding of specific needs relating to particular conditions on the part of support staff. This does not however imply a return to Medical model where decision making on special needs is dependent on an assessment by a professional. Rather it suggests that a new model is needed that can both take into account social barriers and individual needs whilst respecting the personal autonomy of students with long-term health problems.

In respect of the second category, the findings revealed that relatively few of the questionnaire respondents had experienced any of the additional facilities that could be made available by the institution to support special needs (see Chapter 4, Table 4-19). Only 22% of the whole sample (N = 281) had had a home visit tutorial; 24% a telephone tutorial; 6.5% a group telephone conference tutorial; 5% a course based computer conference; and 19.5% a Self Help Group of some kind. This was a surprising finding. The reasons why these accommodations had not been more widely used are not known. This is an issue that merits further investigation.

The participants’ experience of contact with support services was a subject explored further by the personal interviews that completed the main study (Chapter 7). The findings
revealed that these interviewees experienced similar types of difficulty to those described by survey respondents and support the earlier findings (see Chapter 7, Table 7-2). Two particular types of difficulty related to the use of the telephone as a medium of contact emerged from an analysis of the data from these interviews. Firstly, problems were reported with the physical use of a telephone (see Chapter 7, Table 7-6) and secondly with the timing of calls to a counsellor/advisor. This last was associated with a desire not to be a nuisance or ‘bother’ a counsellor (Chapter 7, Table 7-7A and 7B).

**Summary and reflection leading to the second research question**

In summary, reflection on the nature of the four barriers identified by the Exploratory Study suggested that neither the *Medical* nor *Social* model as previously defined was adequate to address this range of problems. There was a need to identify measures that could address the areas of common difficulty encountered (thus drawing on elements of a *Social barriers* model). At the same time there was a requirement to take into account for individual accommodations for special needs (drawing on aspects of a *Medical* model).

This begged the second research question: “How can the identified barriers be addressed?” A different approach was required to address the needs of students with long-term health problems, in the context of a distance-learning environment. The findings from the survey, taken in conjunction with factors highlighted as important from the literature reviewed, suggested that this should take into account: (i) the desirability of a more flexible pattern of working for such students and (ii) a support system which would permit individuals to exercise a greater degree of personal control in decision making on what constituted the most appropriate accommodations to support their special needs from the range of available options.
As discussed in Chapter 3.5.1, reflection on potential benefits identified from an appraisal of the literature in the field of CMC suggested that the use of this medium might provide a route for support that could meet these criteria. This provided the rationale for the design of a feasibility study to explore the effects of a CMC support system designed to maximise student autonomy. This would operate in a ‘Virtual Campus’ environment in which students were provided with access to the services of an educational counsellor on-line. In this thesis this has been termed the *Autonomy* approach. Newell and Walker’s (1991) proposed scenario for support for those with special needs through access to a liaison officer in a conventional campus environment was one particular influence on the type of support offered using this approach. Another was the concept of shared decision-making inherent in the developmental approach to educational counselling/advising approach described by Frost (1991) for use in a conventional university environment. This also has similarities with the approach advocated by Woolfe et al (1987) for use in a distance-learning environment (see Chapter 2.4.3). Simpson’s (1988) identification of a number of potential advantages of correspondence counselling was a further influence. The combination of these elements informed the approach taken to educational counselling/advice in the experimental CMC studies which formed to next phase of the research.

The next section considers the effects of the measures taken in these studies (Intervention Studies 1 and 2) when taking this approach, in the light of the findings.
8.3 An evaluation of the effects of the measures taken to address the barriers to study identified

8.3.1 Introduction

The overall picture that emerged from this series of studies is a complex one. The essential finding is that taking an Autonomy approach when using CMC could support the studies of students with long-term health problems and begin to address the four barriers identified by the Exploratory Study. The main study set out to see if there were any effects on the study process arising from the facilities provided in terms of student motivation, enjoyment and autonomy. The findings show that ten of the twelve participants remaining at the end of the study reported an increase in motivation, ten an increase in enjoyment, and seven in autonomy (see Chapter 6, Table 6-12). The thirteenth student had reluctantly withdrawn from her studies completely at an early stage in the main study, and so had not answered this question. None of the participants reported a decrease in motivation, enjoyment or autonomy. This is an encouraging finding. The results relating to the effects of the measures taken are considered below in relation to each of the identified barriers.

8.3.2 Ways to address difficulties of handwriting using CMC

The value of being able to prepare messages over a period of time using word processing is closely related to difficulties experienced with manual dexterity. The findings of the main study (Intervention Study 2) highlight the high value assigned by participants to the use of an off-line reader facility (see Chapter 6.4.1.2). Nine of the twelve students still actively participating at the end of the experimental period said that use of an off-line reader had been important to them. Three participants commented that this facility allowed messages to be prepared at leisure on the computer and then sent as a coherent whole once completed.
(see Chapter 6 Table 6-1). For students experiencing these problems writing a message can be a much slower process than is the case for those whose dexterity is unimpaired, and may include taking rests in mid-message preparation. This is thus an aspect of the study problems related to the barrier of fatigue. Working on-line for those experiencing this type of difficulty would mean that high telephone charges would be incurred. This would have the effect of increasing the costs involved in accessing and using a conferencing system. This factor is a particular consideration for those on low incomes (often the case for those with disabilities who may be dependent on benefits).

8.3.3 Addressing the barrier of isolation in relation to the study experience

Findings from the Intervention Studies (Chapter 5.4.3.2 and 6.4.4) and from the Personal Interview Study (Chapter 7.5.3) suggest that academic and social isolation could be relieved as a result of CMC access to other students and staff on a ‘Virtual Campus’. Nine of the twelve remaining participants at the end of the year awarded access to the peer group conference the highest rating of ‘5’ on the ‘Usefulness Scale’; seven awarded the same rating to course based Self Help Group conferences. This is another issue closely linked with the relief of fatigue since it could help to compensate for the inability to attend face-to-face meetings (or to attend only infrequently and with difficulty) as a result of this medically related barrier. In the distance-learning environment of the studies reported here this concerns problems experienced with Tutorials and Residential School attendance (see Chapter 4.3.2 and 4.3.4). The findings suggest that the role of the peer group conference was central to this reported benefit, and this is discussed in the following section.

Access to a peer group conference area for interactive discussion

The role of the DOORway conference was considered to be particularly valuable by
those participating in the Intervention Studies as an ‘empathic on-line community’ for discussion with other students facing similar difficulties. Nine of the twelve remaining participants at the end of the experimental period rated its usefulness value at ‘5’ on the scale. Eight ranked this facility as the most important reason for logging on to the ‘Virtual Campus’. (See Table 6-14 for a full breakdown of rankings of available facilities). It had provided a forum for students to share information on ways they had found to tackle barriers encountered related to their studies, and also a space in which to socialise with peers. Such an area is analogous with the example given by Franek (1996) of the value of a private area for discussion and recreation for visually impaired students at the University of Prague (see Chapter 2.2.4). It also has resonance with the value attributed to the empathic on-line community of the WELL described by Rheingold (1993) and to the findings of Preece (1998). All of these are examples of benefits that can accrue from Self Help Groups in various ways.

The framework of the conference area was influenced by Feenberg’s (1989) argument that a strongly structured conference environment is important to the successful use of computer conferencing (see Chapter 2.3.2). The inclusion of clearly defined topics in the student-moderated area was designed to encourage messages to be posted in the most appropriate place, and conversely to decide what topics were likely to contain messages of interest to the individual. All the messages posted were logged on the researcher’s personal computer (using the off-line reader facility), so as to monitor the pattern of use of the area. Unfortunately a hard disk crash meant that messages posted between 27th April and 22nd July 1997 were irretrievably lost. However a breakdown of the numbers posted in each topic during the earlier and later parts of the study provide an indication of the level of use of each topic (see Chapter 6 Table 6-16). This shows that overall the most heavily used topic was the chat topic (101 postings in the earlier period and 862 in the later),
followed by the *discussion* topic (197 and 311 respectively). Whilst the *technical* topic was used quite heavily in the early part of the year (100 messages), in the later stages this tailed off considerably (25 messages). This suggests that technical problems had been ironed out in the early stages of the experimental period. Use of the *medical* topic increased in the later stages, from a very light level (6 messages) to a moderate level (134 messages). It may be that this reflects an increase in confidence to discuss such personal matters as the students became more familiar with each other. The *introduction* topic contained only a few messages. It served its purpose and then became redundant except for reference.

Observation of the conference area (through the researcher’s participation as a facilitator) suggests that strong but unobtrusive moderation contributed to the maintenance of the spirit of co-operation operating in this environment. In the main study one of the participants from the pilot study was recruited to moderate the student area. She was encouraged to initiate and stimulate discussion between participants in addition to fulfilling the role of conference chair. The moderator’s confidence and skills in this capacity were observed to grow steadily over the course of the experimental period. As discussed in Chapter 3.2, an *Emancipatory* approach was adopted when implementing the studies, and for this reason no content analysis of the confidential discussions was undertaken. However, the researcher maintained a low-key presence in the area, and was thus able to observe that no instances of flaming occurred there during the course of the experimental period.

In the case of the separate *counselling* topic controlled by the on-line counsellor, there was a marked increase in use in the later period (69 messages) logged compared with the earlier (15 messages). This suggests an increase in confidence to approach the counsellor by this
route occurred during the course of the studies.

The comments made at personal interview by participants who had been members of the DOORway conference provide a deeper insight into the value assigned to the availability of this facility (see Chapter 7 Table 7-13). Gareth is particularly articulate on this issue.

**Gareth replied:** The other members of DOORway gave me great encouragement, by example, to persevere in adversity. It wasn't so much the cliché 'it helps to know there's always someone worse off than yourself' (I don't believe it does help much anyway) ... no, it was the display of 'guts', and the cheerfulness and friendliness and caring, that never ceased to amaze and encourage me. ... 

... DOORway is a place where people understand what it's like to feel rotten, and where we can talk about our particular personal problems in a way which we might not want to or which might be misunderstood in the wide open spaces of the virtual campus. It is a place where humanity shines through the technology.... [] ... The help I have received in DOORway, as a beginner in CMC, has inspired me to try to help others in my exploration of the virtual campus. ... [] ...

These comments are supported by the positive comments of the on-line counsellor relating to her observations of the interactive conversations that took place between students in the conferences, quoted below:

... 'The main change, for me, has been in the appreciation of the tremendous support the students are able to give each other through their own closed conferences. I was astonished at the way the conferences (topics) functioned and felt privileged to be able to observe the levels of warmth, joy and care, as well as the difficulties, upsets and struggles displayed by the students in their interactions with each other'...

... 'This kind of communication is undoubtedly of enormous value to the students and enables a level of participation way above what the students would otherwise be able to enjoy. In fact study would be impossible for many of the students without the moral support of their fellow students in the conferences'....

(On-line counsellor, end of year questionnaire)
Additionally, the results suggest that the facilities available openly to the whole body of students with network connectivity to the ‘Virtual Campus’ contributed to the perceived benefits. In particular, course-based Self Help Groups were valued highly by the majority of the sample (see Chapter 6 Table 6-14). Seven of the twelve remaining students at the end of the main study rated these at ‘5’ on the ‘Usefulness scale’. One further perceived advantage for participants suggested by the findings of the personal interviews was that using CMC in such an environment had provided a gentle introduction to using computer conferencing. It had led to greater confidence in using the open conferences on the ‘Virtual Campus’ once familiarity with using the medium had been gained (see Chapter 7-13). Gareth’s comment provides a useful illustration of this point.

…”With my health problems I would never have branched out into course and other conferences as I have done were it not for DOORway’ …

This section has discussed ways in which the barrier of isolation was addressed using CMC. The following section considers the ways in which that of fatigue was addressed by this medium. This relates in different ways to the barriers of dexterity problems and isolation already discussed.

**8.3.4 Ways in which fatigue was addressed**

The findings suggest that a particular advantage of the use of CMC in relation to the issue of fatigue was that the asynchronous nature of the medium meant that communication could be undertaken whenever the student was feeling freshest (see Chapter 5.4.1.2 and 6.4.1.2). With particular reference to educational counselling support, three participants commented they had found it useful that text-based CMC permitted messages (using an off-line reader facility) to be downloaded when convenient to both student and counsellor to read at leisure, with the added advantage that a written record of the
‘conversation’ existed for future reference. The problem of fatigue is related to difficulties with handwriting and using a computer with an off-line reader facility had provided a way to prepare messages over time that could address this difficulty. Nine participants in the main study considered use of an off-line reader to be very important, and two quite important. Only one of the twelve participants remaining at the end of the study would have been happy to work on-line (see Chapter 6.4.1.2). Fatigue is also linked with isolation in that incapacitating fatigue was a major reason for inability to attend face–to-face meetings (see Section 8.2.3). Use of computer conferencing had addressed this difficulty, as described in Section 8.3.3.

8.3.5 Addressing the need for improved communication with support services

Reflection on the findings described in Section 8.2.4 in conjunction with the other identified barriers, suggested that there might be additional benefits to be gained from providing access to support services (and in particular to a personally allocated educational counsellor) via CMC for this category of student in a distance-learning environment. Literature in the field of CMC suggested potential advantages of interactive communication via this route (see Chapter 2.3). This led to the design of the experimental Intervention Studies to investigate the effects of such provision. The following section discusses the findings of the main CMC study relating to the effects of access to the services of an on-line educational counsellor.

The role of the peer group conference as an environment for access to an on-line counsellor

The findings suggest that one way to build rapport in relation to the successful provision of educational counselling support was the introduction of a group element into the
DOORway conferencing environment. The dynamics of this structure (see Chapter 3, Figure 3-1) that consisted of two distinct but complementary areas (a set of student-moderated topics and a counsellor-led topic) were designed to promote the building of such a relationship of rapport between the counsellor and students. The counselling topic had provided an opportunity for the students to consult her formally on matters that they felt might be relevant to others as well as themselves. The findings suggest the counsellor’s informal participation in the student-led topics had successfully built rapport between professional and students. This had promoted confidence for the student to approach her by e-mail when more private discussion was needed. Eleven of the thirteen participants in the main study said that they had found it helpful for the counsellor to participate informally in the student-led area. Of the remaining two, one student had reluctantly had to drop out at an early stage because of worsening health problems and so did not complete the questionnaires; one did not comment.

Eight of the participants said that they had chosen to raise issues with the counsellor that were of possible interest to others in the group in the counselling topic and three that they had asked questions there in relation to problems they wished to share with their peers. Specific points of value raised by individual students included the following: (i) it was easier to approach her having ‘got to know her’ through the conference; (ii) her participation in the conference meant that she was aware of the types of problems faced; and (iii) using the counselling topic meant that other conference members could join in and contribute comments. The issue of student perceptions of the on-line counsellor was probed further in the personal interviews (see Chapter 7, Tables 7-8 and 7-9). The findings from this study support that gathered in the main study relating to the importance attached to personal contact between students and counsellor. All four of the participants from the main study who were interviewed commented that this had made her seem more
approachable. This is an important finding since it illustrates the feasibility of establishing a relationship of rapport using text-based communication via CMC. It suggests that using this medium for interactive discussion can provide a suitable route for communication when taking a developmental approach to educational advising (as described by Frost 1991 – see Chapter 2.4.3).

The counselling topic had also provided a secure environment in which sensitive questions relevant to the group could be raised. Perceived advantages were reported, both in the dissemination of information on a ‘one to many’ basis and interactive discussions to share experiences on a ‘many to many’ basis (see Chapter 6 Table 6-5 and Chapter 7 Table 7-13). The counsellor’s post-participation comments acknowledged her growing appreciation of the value of this dimension as a tool in her on-line practice.

...I thought initially that the counsellor-client relationship would be best developed one to one. I can now see that there is another dimension to this development, the group dimension, which can complement and contribute to the individual counsellor-client relationship’ …

... ‘But, besides peer-support, there is definitely also a place for more formal educational counselling via CMC. If it is possible to cast aside pre-conceptions about the importance of visual and oral cues, then it is undoubtedly possible to develop effective counselling relationships via this medium. My initial cynicism was certainly allayed over the course of the year as the power of the medium became apparent … (On-line counsellor; end of year questionnaire)

Her prior statement had revealed that she was initially very sceptical about the possibilities offered by the use of CMC for this purpose. The fact that she had changed her opinion during the course of the experiential period shows that she had found it possible to adapt her skills from face-to-face communication to interactive text-based contact via CMC, both one-to-one and in a group environment.
There were a number of interesting findings concerned with the use of CMC as the medium of contact between student and educational counsellor on a one to one basis and these are discussed below.

**Issues concerning one-to-one contact between an educational counsellor and student**

The findings suggest that one useful aspect of asynchronicity was that it could help to remove a fear of being a nuisance on the part of the student when using the telephone as the medium of contact. In particular this issue was concerned with the timing of calls to part time tutors/advisors working from their homes. Two students raised the potential advantage of the use of e-mail to address this difficulty in their prior statements (main study) and commented favourably on the benefits experienced when using CMC as the mode of contact at the end (see Chapter 6 Table 6-8). This issue was explored further in the personal interviews (see Chapter 7 Table 7-7A and 7B). Five of the eleven students interviewed made comments that suggested at time of need they had sometimes hesitated to contact a Tutor-Counsellor by telephone for fear of calling at an inconvenient moment and three of the four interviewees from the main study mentioned the advantage of e-mail to overcome the problem.

Another surprising finding suggests that the use of CMC had removed a barrier of embarrassment perceived to be present in face-to-face encounters when discussing very sensitive issues, thus facilitating a feeling of greater control over the transaction for the student (see Chapter 6 Table 6-7 and Chapter 7, Table 10). One student specifically commented on this in the main study and three in the personal interviews. Anna’s interview comments (see Table 7-11) well illustrate this point. It appears that the use of
CMC had provided a useful environment for intimate discussion in a distressing situation. This finding runs counter to received wisdom and is an issue that merits further research. The on-line counsellor’s comments indicate that this was an unexpected aspect of use of the medium for her personally.

… ‘I felt that of necessity my role would be a rather cold, unemotional, clinical advice giving role. I did not expect there to be any “real” personal exchanges or any “real” counselling issues arising. I thought that students would feel reluctant to open up on a computer screen and would limit themselves to seeking information from me’…

(On-line counsellor; end of year questionnaire)

The importance attached to continuity of care from a known counsellor/advisor was another issue highlighted by an analysis of the data from the main study and personal interviews. This has resonance with the findings reported by Broadbridge, (1996) in her study into the use of developmental counselling with a group of able-bodied students in a conventional university environment. The prior statements of three of the new sample of students in the main study suggested that continuity of contact with one known person was important to them. Three of the continuing sample also highlighted this issue at the end of the pilot study. The point was thus raised at various times by six of the thirteen participants in the main study (see Chapter 6.4.3.2, Table 6-3). These findings suggest that this might be an issue of high priority for distance learners with special needs. The issue was therefore explored further in the personal interviews. Seven of the eleven interviewees made comments that illustrate the importance attached to this aspect of provision. These in-depth comments support the finding that this was perceived to be an issue of major concern (see Chapter 7 Table 7-5A and 7-5B). Jeremy’s comments provide an insight into his perception of this aspect of student support, which emphasise this point.
Jeremy … Sam <note: pseudonym of Regional Tutor Counsellor> encouraged me and because we had a one to one meeting occasionally I felt that he really understood my problems and was giving me the best advice available. There is definitely a need for a personal counsellor, especially in the initial years, for students, but I feel that this need is more pronounced for a student with a disability. I never felt that I was bothering him when I called and I did not have to go through the routine of explaining everything about myself every time I telephoned - a situation I now find myself in when I call the regional office for help! … [ ] … A dedicated counsellor, especially one who can empathise with a disabled person's problems, is, I feel, a necessity for disabled students. This is what I found so interesting about the online counselling project….

In connection with this issue, five of the seven interviewees who were users of the ‘Virtual Campus’ ranked access to one named educational counsellor on-line as their first choice option for educational counselling support (see Chapter 7, Table 12).

This section has so far discussed a number of identified advantages of on-line counselling. However, inevitably a few difficulties also emerged and these are discussed in the next section.

**Perceived disadvantages of on-line educational counselling**

One participant in the main study had found himself in urgent need of advice on two separate occasions when the on-line counsellor was absent for a few days. This meant that there was a delay in her response, which the student did not consider acceptable. The issue was addressed at the time by the researcher asking the counsellor if for the future she would be prepared to post a brief message in her conference area to inform the students when she knew that she would not be available for several days or more. This meant that if an urgent problem arose the students would immediately realise it was necessary to look for another source of help. The fact that this difficulty surfaced during the study highlights a need to provide a contingency back up service to cover such an eventuality.
Another student commented at the end of the study that he preferred face-to-face contact with a counsellor to text-based contact on-line. He acknowledged the inherent difficulty in achieving this desire in a distance learning institution by suggesting the possibility of using video conferencing for this purpose. This is a facility not as yet generally available (and this is likely to remain the case until such time as broadband networks become widely available). However, the fact that the student suggested a use of CMC for face-to-face contact shows that he had not rejected the use of electronic communication per se.

Summary

The findings relating to educational counselling suggest that for the majority of participants in these studies the medium of CMC had provided an effective route for contact with an educational counsellor/advisor. The group element provided by structure of the peer group conference as an area of shared control had helped to promote a relationship of rapport between students and advisor. The findings suggest that continuity of care ranked as an important priority for these students and that access to an on-line educational counsellor had provided this. One surprising finding is that use of CMC had been considered to be helpful in an emotionally distressing situation. One disadvantage of the medium that emerged during the course of the main study was difficulty caused by an occasional slowness of counsellor response to e-mail when she had been absent for a short period. Another was the perceived need for face-to-face contact on the part of one participant.

8.4 The additional barrier of cost

One further barrier, highlighted by the findings of the final set of personal interviews, was
the issue of capital and running costs of computing equipment. This may represent a
remaining barrier to access to a ‘Virtual Campus’ for those on low incomes for any reason.
This issue was spontaneously raised by three of the students interviewed face-to-face, all of
whom were on low incomes as a result of their condition. It identifies a further area of
concern relating to the first of the research questions. 90 of the 281 respondents to the
Exploratory Study questionnaire did not have access to a computer. Of these 40 expressed
a desire to participate if equipment could be provided. A further 29 were interested but
unsure (see Chapter 4, Table 4-25). This finding suggests that there is a need to consider
ways in which the barrier of cost might be overcome if all such students are to have the
opportunity to benefit. The very recent introduction of Disabled Students Allowances as a
result of UK government legislation in the year 2000 may hopefully be an effective
measure to address this need. This type of funding provides a way to enable a greater
number of students wishing to use computers to support their studies to be able to do so,
with consequential potential benefits in terms of addressing the barriers identified in the
studies reported here.

This chapter has discussed the barriers to study for the group of undergraduate distance
learners with long-term health problems identified by the postal survey and the effects of
measures taken to address these via CMC. The following section discusses lessons learned
as a result of problems arising during the studies.

8.5 Lessons learned and problem areas arising during the research

In an area where little previous research had been carried out, the findings reported here
represent a modest start towards gaining a fuller understanding of the study related
experiences of distance learners with long-term health problems. They open up leads for
further research. The findings suggest that participants in the studies gained considerable benefits from a support framework based on an Autonomy approach in a CMC environment. However, this was a small sample and the results can only be regarded as firm for this set of students. It would therefore be unsafe to draw generalised conclusions from the results of this series of experimental studies.

There are a number of lessons that have been learned from the research process, with the benefit of hindsight and experience. There is a possibility that the wording of the letter of invitation to participate in the initial postal survey might have attracted a greater number of respondents with an interest in using computers to support study than those not wishing to use them for any reason. About two thirds of the respondents (N = 189) reported that they had access to computers compared to one third who did not (N = 90). In the light of experience the researcher would now word the letter differently to avoid the possibility of such an occurrence. Additionally, it was not possible to obtain funding for loan computers (as had been hoped would be the case). For this reason the participants in the Intervention Studies were necessarily all drawn from the pool of respondents to the postal survey who already had access to a computer. The experience of study of students with long-term health problems who do not have access to computers remains an area to be fully explored.

Further research is desirable to see if the same set of barriers apply to this category of student as those for the participants in the studies reported here, or whether differences might exist between those using (or wishing to use) computers to support their studies and those not wishing to use them for any reason. It would be useful to explore the perceptions of those studying without access to computers about what might be the most appropriate measures to address their special needs. In this context James’ views on possible diminishment of individuality and problems with plagiarism if using CMC (see Chapter 7.6) were unexpected and merit further investigation. These reasons for non-use are not
directly related to disability. They fall into the category of personal mistrust of electronic communication and might equally well apply to some able-bodied students.

The fact that in some cases respondents appeared to have misunderstood questions asked in the questionnaires suggests that there were ambiguities in the wording in some cases. This highlights the need for vigilance when designing future questionnaires to minimise the likelihood of this happening again.

**Technical difficulties**

The majority of participants in the intervention studies had managed to set up the hardware and software within a few days with help obtained locally (from family members, friends or local computer dealers). This was a better result than the researcher had anticipated and is encouraging. However, there was one case in which a participant in the main study experienced extreme difficulty and despite her best efforts only managed to log on briefly before withdrawing from participation. This student had multiple health problems that required several kinds of special adaptive equipment (provided by the university) and help with set up from a special needs advisor who visited her home. Unfortunately the special equipment needed to address one facet of her difficulties interacted badly with another piece of software, causing malfunctions to occur which proved very difficult to resolve. Ultimately, whilst still trying to gain access, she was forced to withdraw from the study on medical advice, her health having deteriorated to the point where she could no longer study at all. This example serves as a useful illustration that there may be occasions when problems can arise that prove impossible to overcome, despite the best efforts of both student and institution.
As described in Chapter 3, the approach taken to the design of the studies was influenced by the concept of an *Emancipatory* research model. The final section of this discussion considers to what extent the studies undertaken conform to the refinements in criteria for research to be considered emancipatory in nature that have been more recently proposed by Oliver (1997).

### 8.6 Does the research undertaken fall within recent definitions of *Emancipatory* research?

In recent years the criteria considered necessary to define *Emancipatory research* have been further refined by academics working in the field of disability studies, notably Oliver (1997). Oliver argues that for research to be considered truly emancipatory, control of the research process must be placed in the hands of the researched, not the researcher. He poses two key questions by which to judge (with hindsight) whether or not a particular project conforms to his *Emancipatory* model. These are set out below.

1. Did the research succeed in changing the social relation of research production?
2. Has the research contributed to the emancipation of disabled people?

In the same publication other researchers in the field consider their own completed projects in relation to these questions. It transpires that a variety of problems arise for those aspiring to conform absolutely to Oliver’s criteria, not least a researcher’s need to adhere to the rigour of academic mores. Few (if any) of the researchers reporting on their projects in this volume would claim to have been able to fulfil the definition completely (for example, see Shakespeare 1997)

In the case of the studies reported in this thesis, the criterion for the researcher to come
from a similar background to the researched group was fulfilled. The researcher is a graduate of a distance learning institution and one who has long-term health problems. The studies have shown that perceived benefits occurred for the group of undergraduate distance learners involved in this series of studies from access to a CMC environment aimed to maximise their own control over their studies. Both of these factors are considered to fall within the second of Oliver’s criteria.

However, in respect of the first of the criteria, the studies can only be considered to have been participatory, rather than emancipatory. Control over the design process, analysis of the data and dissemination of the results remained with the researcher. In this context the comments of Shakespeare (1997) are refreshing. He considers himself broadly accountable to the participants in his research but also argues that he is not prepared to let other people control what he writes or dictate the appropriate political stance.

The following section summarises the conclusions drawn from the studies and the final section of the thesis, Section 8.8 suggests areas for future research.

8.7 Conclusions

The work undertaken has achieved a number of objectives, which are summarised below.

- It has identified a number of perceived needs of undergraduate distance learners with long-term health problems through a large-scale survey of students. In particular four barriers to study common to the majority of the sample have been highlighted. These are severe fatigue, difficulty with handwriting, isolation in their studies and a need for an effective route for contact with support services. These
findings provide information that will be useful to those working in the field of disability support in a distance-learning environment. They may also provide useful insights for those working in a traditional campus environment.

- A novel experiment has been successfully conducted in the use of CMC to provide access to the services of a personally allocated educational counsellor within the confidential environment of a peer group conference (an ‘empathic on-line community’) for a group of students in this category. This approach was based on a ‘Student Support Structures’ approach in a CMC environment, as distinct from the most commonly used model to date, the ‘Tutorial’ model. The key innovative measure introduced was the careful structuring of this environment to include two distinct but interlinking areas, the first controlled by a student moderator and the second by an on-line educational counsellor. This was designed to promote student autonomy whilst at the same time facilitating rapport between the counsellor and students. One aim was to encourage student confidence to contact the counsellor by e-mail when more personal advice was required. The findings from this study will help to inform those working in the fields of CMC, educational counselling and disability support.

- A literature review has been undertaken that has gathered together different strands of research in three areas of interest. These are Disability Studies (in particular models of disability and special needs support for students with disabilities), the use of CMC in a distance education environment, and the position of educational counselling/advising within the wider context of counselling more generally. As illustrated in Figure 8-1 below, crossing the boundaries between areas of interest in this way can throw new light onto the issues under consideration and enable the
cross-fertilisation of ideas for the potential development of new inter-disciplinary applications. This approach will therefore be of interest to those working in all of three of these fields.

**Figure 8-1**  
*Crossing boundaries between different fields of academic interest*

Area A in Fig 8-1 represents the core area explored in this thesis and includes elements from all three areas of interest. It will be of interest to those working in each of these fields.

Area B represents the overlapping areas of interest for those working in the fields of Disability Studies and CMC. For those concerned with the support of disabled people it will provide information on ways in which CMC can be used to support distance study and perhaps suggest useful applications of this medium for disabled students. Conversely, for those working in CMC the literature reviewed may highlight possible pitfalls to access for those with disabilities, which need to be taken into consideration by those designing new applications for this medium.
Information on ways in which CMC can be used as a method of communication to provide self help support for those facing similar life situations will also help to inform all educationalists in distance learning - those working with able-bodied students as well as those working with students with disabilities.

Area C represents the overlap of interest for those working in the field of educational counselling and disability support since the literature reviewed concerns an exploration of a number of approaches to educational counselling that are not confined to CMC. It may provide insights useful in a traditional educational environment as well as in distance education.

Area D represents the overlap of interest for researchers in the fields of educational counselling and CMC. Information about different approaches to educational counselling support will help to inform those wishing to explore the possibilities of the development of applications suited to a computer conferencing environment in this field for distance learners more generally.

- A new research method has been piloted, that of personal interview by asynchronous e-mail, which in this thesis has been termed epistolary interview. This was based on a framework adapted for text-based communication from the type of semi-structured conversational format described by Wilson (1996) for use when undertaking in-depth face to face interviews (see Chapter 3.2.1). There are a number of advantages associated with this method. It enables time to be taken for a considered response on the part of both interviewer and interviewee. It can provide a convenient method to undertake in-depth interviews with those living at long distances from a researcher. An additional advantage arises from the text-based nature of the interview. This means that as soon as the interview is completed a
researcher can compile a transcript quickly and accurately. There is no worry about inaudibility or misheard words, as may occur when transcribing from audiotape. For these reasons the method will be of potential interest to researchers in all disciplines. It holds a particular advantage when interviewing students with long-term health problems, being non-time dependent. This addresses the barrier of fatigue and the possibility of cancellation through fluctuations in the medical condition when arranging interviews in real time (face-to-face or telephone) in advance.

- The research undertaken with the thirteen students in the main study has highlighted the complexity of provision that is desirable to address the needs of undergraduate learners with long-term health problems. It illustrates ways in which the medium of CMC may be used as a means to provide supportive measures. These findings will be of interest to all those working in the fields of disability support, CMC and educational guidance.

- The approach taken recognises the importance of respecting the autonomy of the individual student with long-term health problems in distance learning and is referred to in this thesis as the Autonomy approach. It takes into account the social barriers dimension of the need to address common barriers encountered in relation to the studies of such students. At the same time, access to the services of a personally allocated educational counsellor on-line (acting both as a channel of liaison between the individual and the institution and in an advisory capacity) can provide a convenient way to address the identified need to maintain students’ personal autonomy in decision making. Communication via this route facilitates interactive discussions between student and counsellor when arranging
The outcomes of the research reported in Section 8.3.1 relating to the increased levels of motivation, enjoyment and autonomy reported by the majority of participants in the CMC studies suggest that the support provided in some measure helped to address the barriers to study identified by the Exploratory Study (see Section 8.2) for this sample of students. The findings have revealed that the provision of measures to support the study of undergraduate distance learners with long-term health problems involves complex issues. They suggest that the role of the peer group conference was central to the beneficial effects reported by participants in the CMC studies. This area had provided a secure private space for both peer contact and group access to the services of an educational counsellor. However, participants also perceived access to the openly available facilities on the Virtual Campus as having been valuable in reducing isolation. Overall the findings suggest that it was the holistic package, a combination ‘raft of measures’ readily made possible when using an Autonomy approach in a ‘Virtual Campus’ environment that was most effective in addressing the identified barriers to study for this group of participants.

In conclusion, the research undertaken for this thesis has made a modest start to the development of a greater understanding of the difficulties faced by undergraduate distance-learners with long term health problems, within the limitations of the methodology used and lessons learned (discussed in Section 8.5). The areas of difficulty identified by the Exploratory Study and ways in which these were addressed for the small sample of students taking part in the experimental CMC studies contribute some benchmark data to the body of knowledge in the field. In an area where little previous work has been undertaken, the findings open up new leads for future research to probe the issues raised.
Some areas that merit further investigation are outlined in Section 8.8 below, the final section of this thesis.

8.8 Areas for future research

There are two categories of research to be considered here. Firstly these concern issues arising directly from the findings of the research studies described in the thesis identifying areas needing attention in the immediate future and secondly those that might of interest in the longer term.

8.8.1 Areas of immediate interest for future research

As discussed in Section 8.7, one appropriate area for future research suggested by the findings of the work undertaken for this thesis is a need for further investigation of the experience of undergraduate distance learners with long-term health problems who are not using computers. Reasons for non-use might be the barrier of capital and running costs, an inability to use the equipment related to their condition or perhaps a personal dislike of technology. In the context of the latter possibility, James’ interview comments on possible loss of individuality and worries about possible plagiarism when using CMC (see Chapter 7.6) raised unexpected points that provide leads for further investigation in this area (as discussed in Section 8.5). It would be useful to explore student perceptions of those in this category of what measures would be most suitable to address their special needs.

Another area that merits further exploration is the use of CMC for access to the services of an educational counsellor in an ‘empathic on-line community’ for other categories of student studying in isolation who might benefit from this facility. For example these might include single parents isolated at home by lack of suitable childcare and those living
in geographically remote regions. Further research to see if the effects might be equally beneficial for such groups would be useful. In the longer term there are other areas of interest for future research and these are described below.

8.8.2 Areas of longer-term interest for future research

Video Conferencing

The rapid advances made in the use of electronic media which have taken place over the course of the studies reported in this thesis open up new possibilities for support of those studying in isolation. For example, one participant in the main study mentioned a desire for video conferencing, which could permit students to have interactive face-to-face contact with others via the computer screen. An exploration of perceptions of the usefulness (or otherwise) of this option to support the study process for those with disabilities is an area that merits investigation. However, this would require use of a broadband network, which is as yet not widely available, and this places any exploration in this field of interest as an option for the longer term.

Cascade effect for carers

One unexpected lead for future research that emerged from the final Personal Interview phase of the main study concerns the potential beneficial cascade effect for carers of observed improvement in autonomy of students with disabilities with access to the ‘Virtual Campus’. This is based on a comment volunteered by the partner of one of the interviewees (a participant in Intervention Study 2). He remarked that the effect of her communication with others on the ‘Virtual Campus’ had reduced her dependence on him for social contact with consequent benefits for his own quality of life. The possibility of
such an effect presents another lead that merits further investigation.
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