TELECOTTAGE E-LEARNING TRAINING

RESULTS OF A SURVEY OF PILOT TRAINING OF TELECOTTAGE MANAGERS

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EXECUTIVE SUMMARY

The expansion of the number of telecottages both within and across countries in Europe in recent years, has highlighted the need to provide consistent and good quality training to potential telecottage managers in order for them to be fully effective. Furthermore there has been recognition that training material can be used in a transnational context, where common elements allow, and this may be supplemented by nation-specific content where necessary.

The *Telecottage E-learning Training* project seeks to tackle these issues by introducing a new methodology for the provision of high quality training material for telecottage managers in Hungary and Spain. Previous work packages within the current project have resulted in the production of a learning platform and 3 elearning courses targeted at potential telecottage managers.

This work package reports the findings of a survey of telecottage managers conducted in October 2004 who underwent online training using the pilot programme of the project. The survey sample was selected as being fairly representative of the intended final target audience for this training material, namely adults with (preferably) higher education living in small villages in Hungary and Spain.

As well as identifying detailed user profiles among the sample, the survey sought to assess user views relating to *technical performance of the elearning system*, the *design of the user interface*, the various elements making up the *course content*, the *time involved in carrying out the course work*, and finally obtaining feedback from users of their *general attitude towards elearning as a learning process*.

To date responses have been received from 33 of the original sample of 60 would-be telecottage managers and the analysis presented in this report is based on those results.

In terms of *Technical Performance of the System*, this was tested according to two main criteria. The first addressed the ability of the system to deal with issues related to downloading screenpages, navigational functionality and installation of additional third-party components and overall performance was very good with users either never, or at least rarely, experiencing problems. Where problems did occur, these were likely due to lack of available bandwidth. The second involved an evaluation of the surface elements (such as communication surface, help, manageability of the system) and of the 7 elements tested, four were judged to be above average, with the rest only slightly below.

Design of the User Interface addressed on the one hand fundamental aspects such as system navigation and reading texts onscreen (both of which were considered to be easy) and, on the other, the use and usefulness of system facilities such as *contents page*, *glossary*, *multimedia*, *search* etc. Of the 14 facilities on test, only 5 were used extensively (that is, by two-thirds or more of respondents), while another 5 were used by fewer than half of respondents. Facilities such as *Printing*, *Search* and *Bibliography* were judged to be most useful, with *Pictures*, *Bookmarks* and *Personal Settings* thought to be of least use.

Examination of *Course Content* focused on three main areas: course texts, course tests and use of multimedia. For all three courses combined 85% of users rated them as *Good* or better with 45% judging them either *Very Good* or *Excellent*. A similar proportion (90%) rated the

relevance of the course topic as *Good* or better and considered the texts to be of *Adequate* length and targeted at the right level. Over 80% of respondents rated the relevance and quality of course tests as at least *Good*. As for the use of multimedia, it appeared from user response that it had been slightly under-utilised – or could have been used more effectively - in the three courses compared to how important they regarded the use of multimedia in elearning in general.

Analysis of *Course Work* provided useful feedback on both the total time and number of session spent on each course. Although total time spent on each course is closely related to the length of the course itself, what emerged was that the average length of each elearning session seemed to be relatively constant, at around hour. Of all time spent on the courses around two-thirds is spent just reading the texts, with a further 15-20% spent following links and other documents.

Finally it was important to gain the users' views about elearning in general. Regardless of how good the elearning courseware and its underlying platform are, there arguably remains a major barrier to be overcome in terms of general acceptance of this new form of learning. One particular concern relates to the solitary nature of elearning, though the survey indicated that there was in fact no great demand for direct personal contact with either tutors or fellow students. Instead users attached greater importance to email contact, especially with a tutor. Another concern relates to how effective elearning is thought to be in comparison with other forms of learning. Not surprisingly, its effectiveness relative to traditional classroom learning remains open to question, though against self-study is scores very well. Although this question related more to the pedagogical qualities of elearning vis-à-vis other learning methods, the appeal of elearning often is found in other respects. As such the survey respondents fully recognised the flexibility in both time and location that it offered, as well as opportunities for self-paced study and the wide availability of material. Although, disadvantages such as lack of personal contact and issues related to internet connection were highlighted by respondents, the overall attitude towards elearning was found to be very positive.

INTRODUCTION

This report constitutes the deliverable from Alphametrics Ltd for Work Package 4 of the project on Telecottage E-learning Training conducted for Mimoza Communications Ltd as part of the 2nd Phase Leonardo da Vinci Programme.

Rationale

The overall aim of the project is the provision of telecottage management related training material. There has been a marked growth in the number of telecottages across the European union in recent years, and increasingly these are providing a key place in rural communities where access to a wide variety of information for local people would otherwise be restricted. However, this expansion both within and across countries introduces its own set of risks, not least the fact that training material for those setting up telecottages becomes disparate. Furthermore there is a large degree of replication of effort between organisations producing this type of material, which is both inefficient and can lead to outputs that vary widely in terms of quality.

The current project therefore seeks to tackle these issues by first identifying the need for *good quality* training material for telecottage managers and, secondly, introducing a transnational learning development methodology.

Earlier stages of the Telecottage E-learning Training project have therefore focused on the production of material for three courses for telecottage managers in Hungary and Spain. This has involved first of all the development of the Coedu learning platform for course delivery (either online or by CD-ROM) and secondly the production of course content for both Spanish and Hungarian audiences, which take great care in separating those course elements that are either nation-specific or non-nation specific. In other words to achieve maximum efficiency of the course material common elements are used across all language versions, while allowing issues that are particular to the national context to be included where necessary.

The medium term aim of the project is to use the material produced to train 1,000 telecottage managers over the coming three years. The preferred target group should be made up of adults with higher education living in small villages in Hungary and Spain.

Before then, some 60 telecottage managers were trained using the pilot programme of the project. This in effect was a trial to assess both the system platform and the quality of the material produced for the three courses. These telecottage managers were subsequently surveyed in September/October 2004 and the results of that survey are presented here.

At the time of writing only 33 responses were available for analysis: 26 from Spain and 7 from Hungary. Ideally the analysis should be carried out using a comparative country approach, but given the current effective sample size this is not practical[1] and so results are presented for the two countries combined.

[1] Should more responses from Hungary become available in due course then the analysis will be amended to reflect this.

Report Structure

This report is set out according to the 6 broad areas investigated as part of the survey[2] of would-be telecottage managers, namely:

- Part 1: Information on the Respondent
- Part 2: Technical Performance of the System
- Part 3: Design of the User Interface
- Part 4: Course Content
- Part 5: Course Work
- Part 6: E-learning Methodology

Part 1 provides important profile information on the survey respondents, enabling their identification in line with the original target group for the project. It also allows further elaboration of other survey responses by filtering results according to certain base criteria (e.g. age group, IT experience etc).

Parts 2 and 3 are designed to assess the accessibility to – and operability of - the system as a whole, regardless of which course had been undertaken by the respondent. Clearly technical performance of the system overall is a key factor in the actual *delivery* of the courses.

Parts 4 and 5 focus on course-specific elements, where respondents are asked to assess the quality of the textual information provided, the testing environment and the use of multimedia. Results here are presented separately by course, to allow for distinction between various course types. In addition to this the amount of time devoted to conducting the course is assessed and further split by time spent on different activities within the course.

Finally, part 6 is aimed at assessing users views of elearning in general, particularly in relation to the perceived strengths and weaknesses of such a method of education and training.

[2] A complete version of the survey template is included as an annex to this document

PART 1: INFORMATION ON THE RESPONDENT

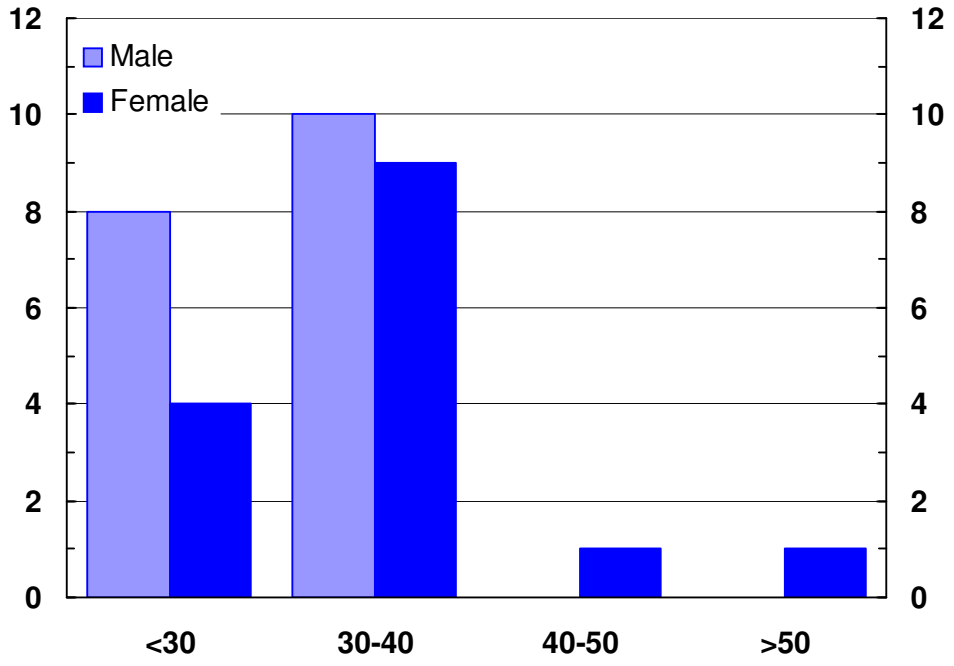
Part 1 is a key starting point for the survey, as it provides a profile of respondents against which the rest of the survey can be measured. As described above, the target group for the project as a whole is *adults with preferably higher education living in small villages in Hungary and Spain*.

Therefore, the aim of the survey of 60 would-be telecottage managers was to capture as far as possible this group, particularly from the point of view of educational attainment. Other basic information collected would include gender and age of respondent (the latter tending to be inversely correlated with IT experience), their broad occupation[3] (again which tends to correlate highly with education level) and their location for testing the elearning platform.

1.1: Gender & Broad Age Group

Of the total 33 respondents to the survey 18 were male and 15 female. Over half (58%) of the respondents were aged between 30 and 40 and a further third (36%) were aged under 30 (Graph 1.1)

1.1 Respondents by gender and broad age group



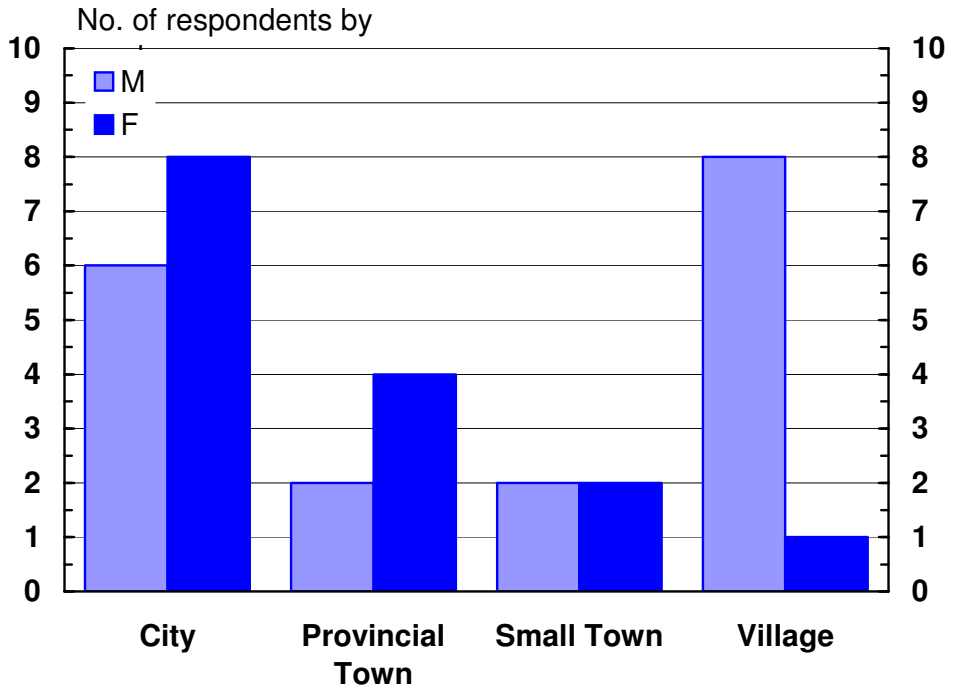
[3] As defined according to the international standard ISCO-88 classification.

1.2: Location of Respondents

Around half (42%) of the respondents tested the elearning system from a major city location, defined as having a population of 100,000 or more. Only a quarter of respondents undertook the testing from a rural (village) location with fewer than 2,000 inhabitants (Graph 1.2).

For the purposes of testing the elearning platform – especially when in each case this is done online rather than by CD-ROM – the issue of access to the internet at an acceptable speed is crucial. As shall be discussed later, the COEDU courses integrate a good deal of graphical and multimedia material which aim to add significant value to the overall course presentation. However the ability of users to make sufficient use of these aspects will of course be severely affected by their location and the general quality of internet access.

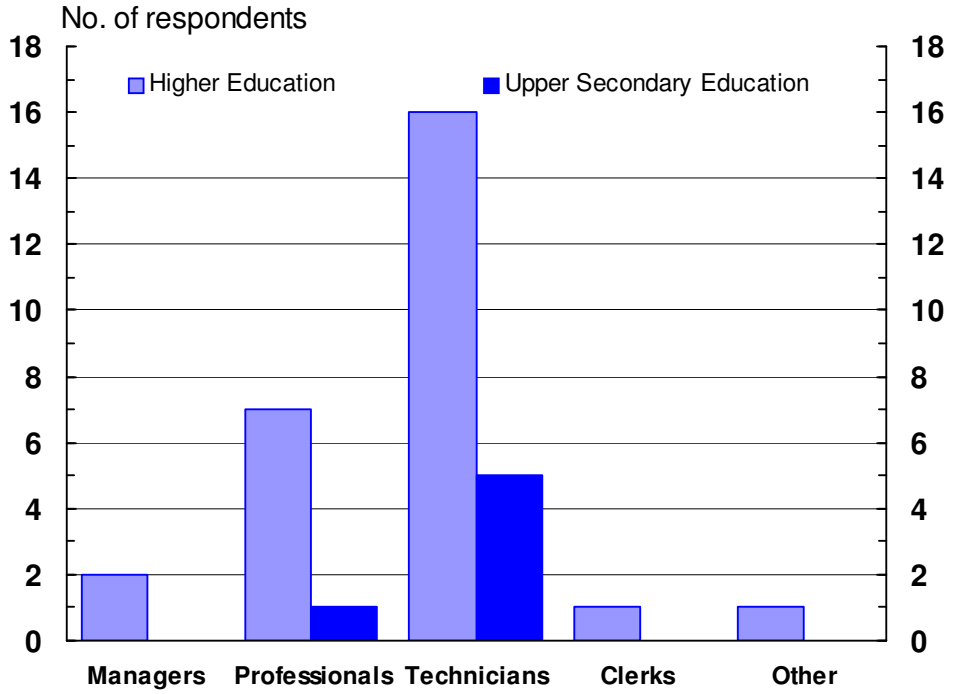
1.2 Respondents by gender and location



1.3: Education and Occupational Factors

As discussed above, the target audience for would-be telecottage managers consists of those with relatively high levels of education. 82% of the total sample had achieved higher level education and the rest were educated to upper secondary level. This distribution by educational attainment was also reflected in the occupational profile, with 88% belonging to the highest skilled non-manual worker group – managers, professionals and technicians – according to the internationally comparable broad 1-digit ISCO-88 occupational classification (Graph 1.3).

1.3 Respondents by occupation and educational attainment



1.4: IT Experience

The results of the survey and users attitudes towards the COEDU elearning platform are likely to be significantly influenced by the general level of IT literacy among the end users. Given the need for highly educated telecottage managers operating in rural locations, it is presumed that these people would ideally need a fair degree of self-sufficiency and indeed confidence to deal with not only general IT issues but also more specifically their approach to the course material. Therefore good or even advanced IT skills would be extremely beneficial in this context.

At the same time, relatively proficient IT users may well have even higher expectations of what the COEDU elearning platform should deliver for them and thus may adopt a more constructively critical approach.

Self-assessment of IT Skills

In fact all but two of the respondents stated that they rated their IT skills above average, that is either having *Long experience as a user of PCs and the Internet* (52% of total) or *Experience at System Level* (42%). As such this sample was very well suited to the task in hand.

Previous Experience of E-learning Courses

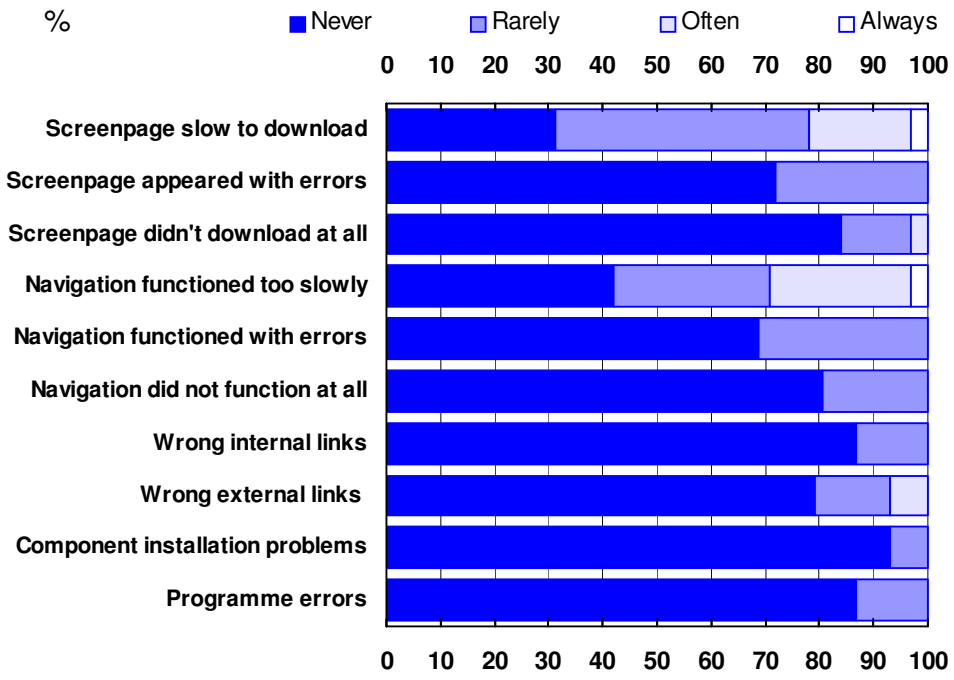
Furthermore, two-thirds of respondents had undergone at least one elearning course in the past and three-quarters of these had attended more than one course. For this group as a whole the average number of e-learning courses followed per person was around 2.5. Feedback from respondents indicated that for the most part such courses focused on how to use the internet or a software package such as Microsoft Office or Macromedia Dreamweaver. In some cases specific business-related related courses had been undertaken.

PART 2: TECHNICAL PERFORMANCE OF THE SYSTEM

All users of the elearning platform accessed the courses online rather than by CD-ROM. The implications of this are that because delivery of the course material is over the network (via the internet), factors are introduced that impact on the fundamental ability to deliver the course in the first place. Clearly in terms of network economics, there are distinct advantages to be gained from such a distributed architecture over the internet: not only are the initial costs of distribution of the course material reduced significantly (as the course is accessed from one or more central locations rather than a large quantity of CD-ROMs being sent to end users), but the costs associated with updating or amending the course material are that much lower too, both from a time and content production perspective.

Given this background, it is important to assess just how well the elearning platform copes with this method of distribution. Some aspects are indeed likely to be out of the control of the providers of the COEDU system (such as quality of internet connection etc), but equally consideration needs to be given to possible problems that may arise from this.

2.1 Technical performance of the system



Overall the technical performance of the system proved to be very good. In most cases potential problems with the system were not encountered at all (around 70-80% of the time), and even where they were, this was rare (Graph 2.1).

Problems only really occurred in relation to *screenpages being slow to download* or *navigation elements functioning too slowly*. For both issues these problems occurred either *often* or *always* in 20-30% of cases. Slow system response, particularly over the internet, is highly likely to be due to a poor, or interrupted, internet connection (though of course problems associated with the course host server should not be discounted). Unfortunately without a question in the survey to measure type and speed of internet connection, it is not possible to test this theory directly. However, location of respondent may be used as a *proxy* in an attempt to shed further light on this. In fact, where *screenpage downloads* and *navigational elements* were stated as always operating slowly, in both cases this occurred within a small town setting, where it is quite possible that internet connection was relatively poor. This argument cannot necessarily be applied though to cases where these problems occurred often, as most of these were in city locations.

Whether or not these problems were principally due to poor internet connection or to other reasons, the important issue – particularly in the context of provision of material online to rural locations – is that for many years to come, emphasis still needs to be placed on course delivery where considerations about limited bandwidth are given high priority.

Access to the COEDU System

Generally there were no great problems accessing the Coedu system. Around two-thirds of respondents stated they had absolutely no problems at all (a further 7 did not answer the question anyway). Any problems that did occur were related to the actual language version of the course, where users requiring the English version could only access the Hungarian version.

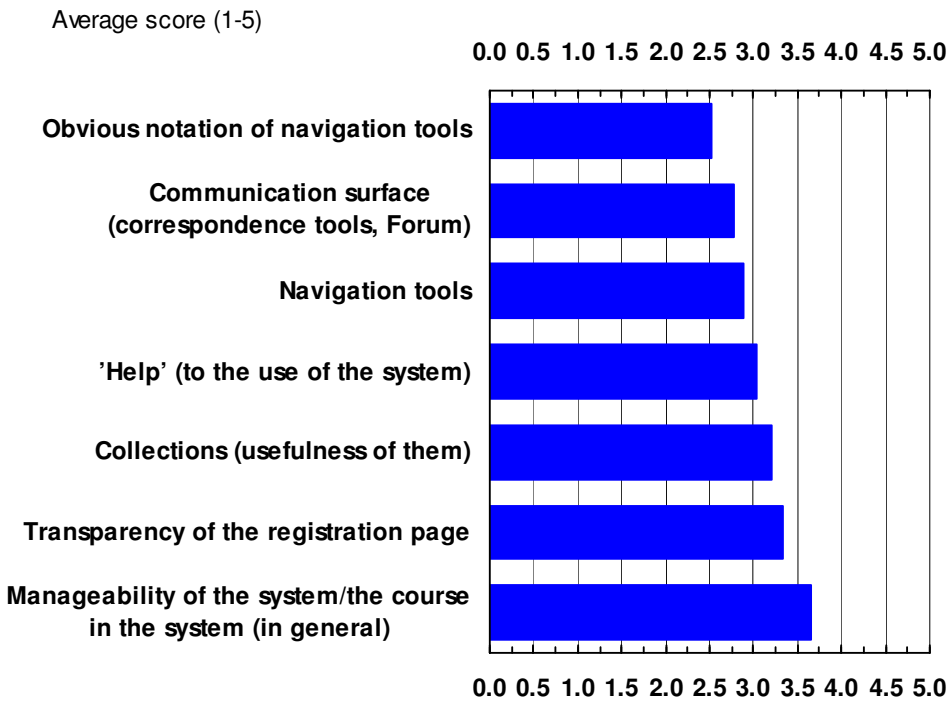
System User Surface

Again, for the most part, user experience was fine here. Only in a few cases (half a dozen) were there any difficulties and these related mainly to general navigational issues of the system, which seemed to be as true for experienced as much as inexperienced IT users.

Evaluation of Surface Elements

Graph 2.2 below indicates how users rated various aspects of the surface elements. Ratings ranged from 1 (very poor) to 5 (very good). Aspects that scored well were *Manageability of the System as a whole* (3.7 on average) and *Transparency of the Registration Page* (3.3), though in total 4 of the 7 elements were rated as being above average – scoring 3 or more). The weakest part of the system was judged to be the lack of *Obvious Notation for Navigation Tools* (2.5/5).

2.2 Evaluation of surface elements



Other Opinions

Other individual comments relating specifically to the framework and user interface related to:

- The ability to download courses and run them locally
- User interface needs to be more intuitive (or more explanation given as to what the various parts of the system actually do). Suggestion that user surface have more distinct images/buttons to make it clearer especially for inexperienced users.
- Text can be too small at times. Also, problems were encountered selecting text in unit 21 of the course on *Telecottage Management*
- Possibility to eliminate notes
- Possibility to vary text highlights individually rather than by lesson
- Concerns over the need for inclusion of Flash and/or Java, especially where the initial download is quite big.

PART 3: DESIGN OF THE USER INTERFACE

The design of the user interface is one of the critical aspects contributing to the overall success of the elearning platform. Without a user-friendly or efficient interface elearning course participants may well be distracted from the primary purpose of fully completing the course. Beyond the course content (which is of course the responsibility of the course author), the focus should be on making the system as a whole as engaging as possible to the user. Therefore priority should be given to improving areas of the system, where users might potentially experience difficulty and be put off using the system. Furthermore, as the user interface is in fact a template for all the courses, there is even greater emphasis on ensuring that great care and consideration go into its design from the outset, though equally it must be flexible enough to adapt to user needs over time.

This section is targeted at assessing users' experience of the interface in general and the features offered by the system in particular.

3.1: Navigation and Legibility of Texts on Screen

The first task was to obtain feedback on the user's overall impression of the interface, measured on the one hand by the ease with which they could navigate the system and on the other by their ability to read texts directly from the screen. In both cases these were judged to be either *Easy* or *Very Easy* (around 90% of respondents, Table 3.1 below).

Table 3.1: Design of User Interface

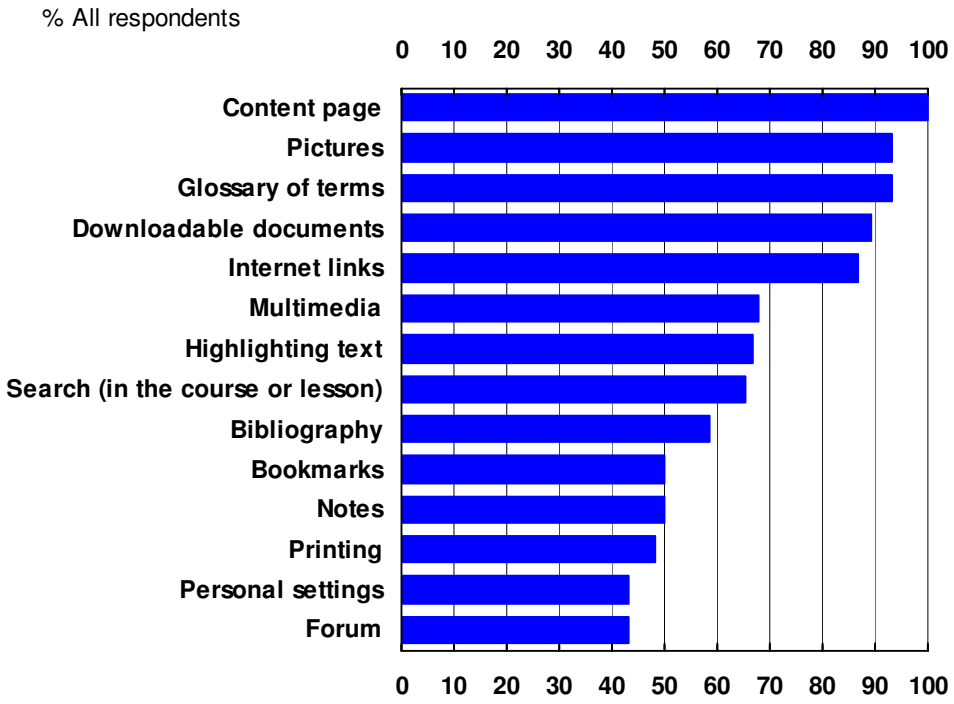
% Total	Very Difficult	Difficult	Easy	Very Easy
Navigation within the system	0.0%	12.5%	65.6%	21.9%
Reading texts from the screen	3.1%	3.1%	62.5%	31.3%

3.2: Opinions on Facilities

In order to asses the usefulness of the various system facilities it was first necessary to determine to what extent they had been used by the sample group. In fact not all facilities were widely used, with only *Content Page, Pictures, Glossary, Downloadable Documents* and *Internet Links* being tried by at least 4 out of 5 users (Graph 3.1). Only two-thirds of users used the *Multimedia* facilities, which is disappointing given the added value this form of media provides to elearning courseware (though the bandwidth issue may again partly explain this relatively low usage).

Other facilities such as *Bookmarks, Notes, Printing, Personal Settings* and the *Forum* were used by fewer than half of all respondents. To some extent this is understandable as in some cases it is difficult to fully experiment with certain elements in what was a testing environment.

3.1 Use of system facilities



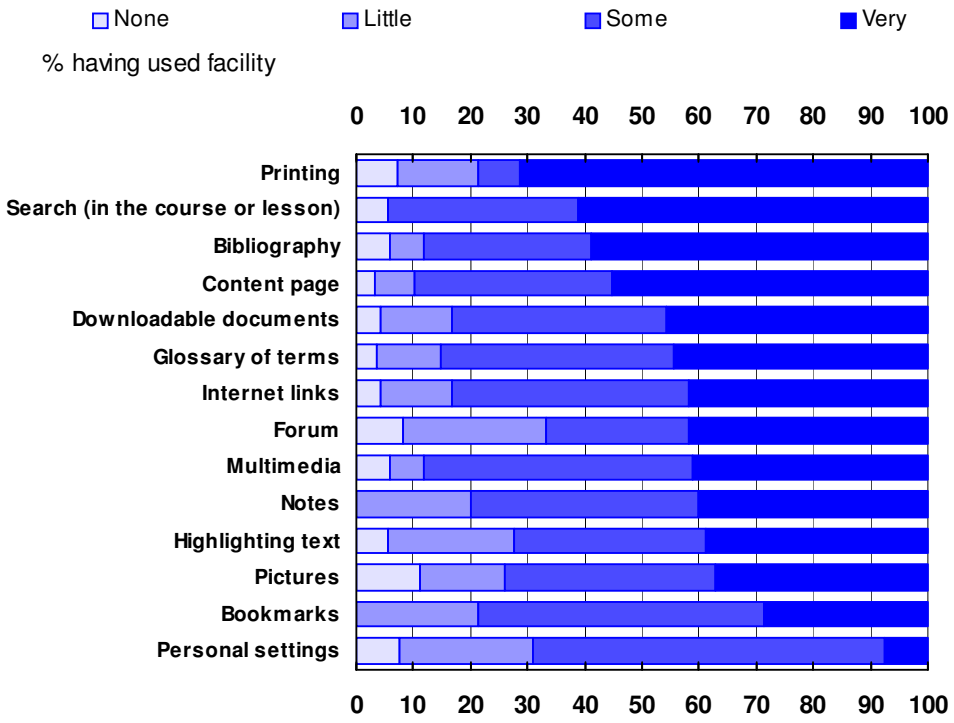
3.3: Usefulness of System Facilities

Of those who actually used the various system facilities, respondents were then asked to rate its usefulness. The results are given in Graph 3.2 below.

Overall each feature was judged to have *some usefulness* or be *very useful* by at least two-thirds of respondents. The main variations within this resulted from the proportion finding each feature *very useful*, where *Printing* and *Search* facilities along with the *Bibliography* and *Contents Page* scored the highest (over 50% of respondents rated them as *Very useful*).

Of all the features, the *Forum*, *Text Highlighting*, *Pictures* and *Personal Settings* were judged as having the least usefulness (around a quarter or more of respondents rating them as having no or little importance).

3.2 Usefulness of system facilities



3.4: Suggestions for Improvements

In a few cases respondents provided suggestions for improvements to the user interface. As these are difficult to categorise, they are simply listed below:

- Make contents tree/window permanently visible
- Include user interaction to enable suggestions to be provided for certain parts of the course (e.g. glossary, links)
- Reduce the number of active windows open at any one time.
- Reduce or eliminate pictures as these increase page download times
- Introduce audio presentation of existing textual content
- Ensure that functionality such as timers and search facility work correctly.

PART 4: COURSE CONTENT

Having assessed the performance of the Coedu learning system as a whole, the next task was to focus on the actual *content* of the three courses subject to evaluation by the respondents. Actual respondent participation for each of the three courses is given in Table 4.1 below.

Table 4.1: Number of participants by course

	Number of Respondents	Percent of Total
Telecottage Rural Development	7	21.2%
Telecottage ICT Needs for the Future	9	27.3%
Telecottage Management	10	30.3%
Course Not Specified	7	21.2%
Total	33	100%

The analysis of content issues was carried out according to three broad areas, namely:

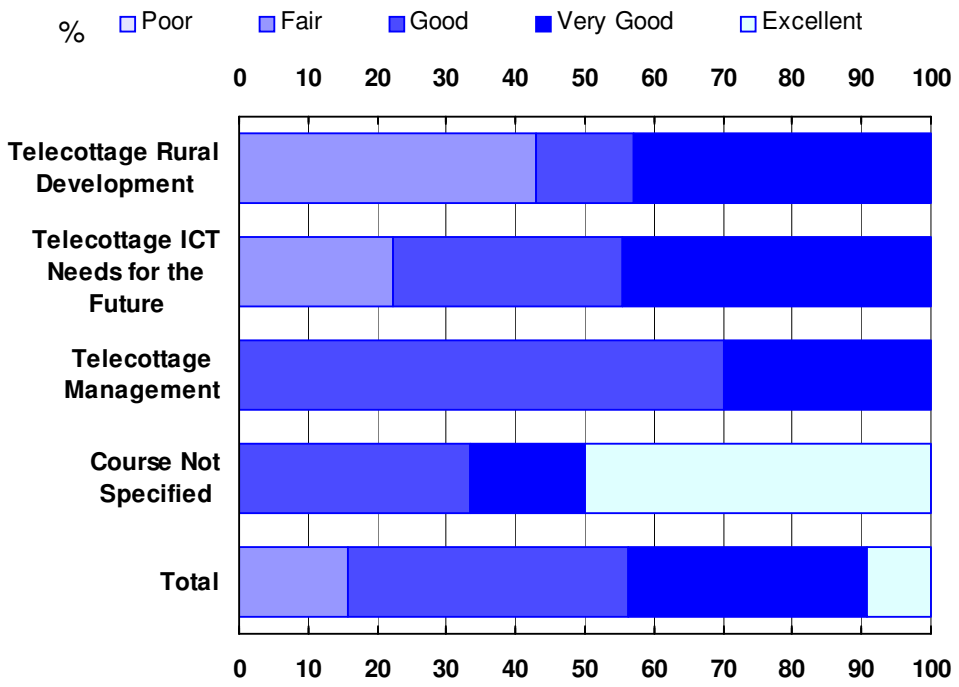
- Course texts
- Tests
- Multimedia

Specific questions were then asked in relation to each of these.

4.1. Course Texts

Respondents were first asked to provide an overall rating for the course they undertook. This was measured on a five-point scale ranging from *poor* to *excellent* and results by course are given in Graph 4.1 below.

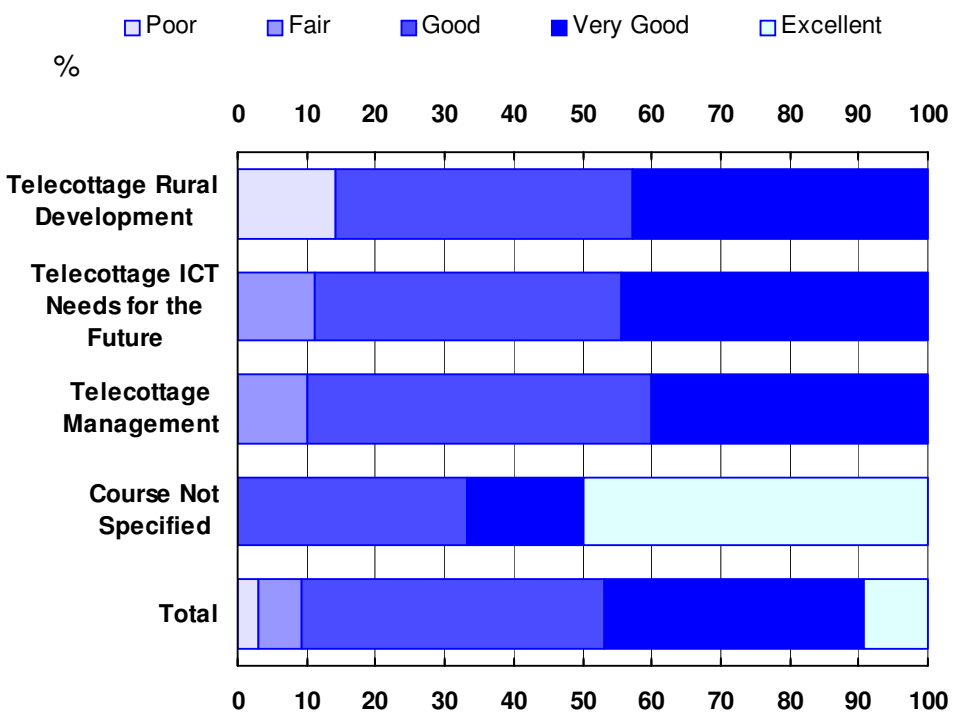
4.1 Overall rating of course texts



Overall, of the three courses combined, 45% of respondents rated them as being either *Very Good* or *Excellent*. A further 40% rated them as *Good*, with the rest believing them to be *Fair*. None of the courses received a *Poor* rating. Broken down by course, these results vary somewhat. All respondents following the *Telecottage Management* course rated it as being either *Good* (70%) or *Very Good* (30%). 44% of those who followed the course in *Telecottage ICT Needs for the Future* rated it as *Very Good*, very similar to the proportion who undertook the course in *Telecottage Rural Development*. However in this latter case, a relatively large proportion (43%) also judged the course to be *Fair* only.

As for relevance of course topics, on average over 90% of respondents found the three courses to be *Good* or better (including almost 50% who scored them as *Very Good* or *Excellent*) (Graph 4.2). Again the courses in *Telecottage Management* and *Telecottage ICT Needs* scored highly (around 90% marked *Good* or above), with *Telecottage Rural Development* slightly less (85%).

4.2 Relevance for course topic



For all three courses combined, around nine out of ten users found the texts to be of *Adequate* length and level. There was however some feeling that course texts for *Telecottage Management* and *Telecottage ICT Needs* were too long and that the level was too basic (10% and 22% in each case). Conversely, one of the respondents who followed the *Telecottage Rural Development* course considered it too advanced.

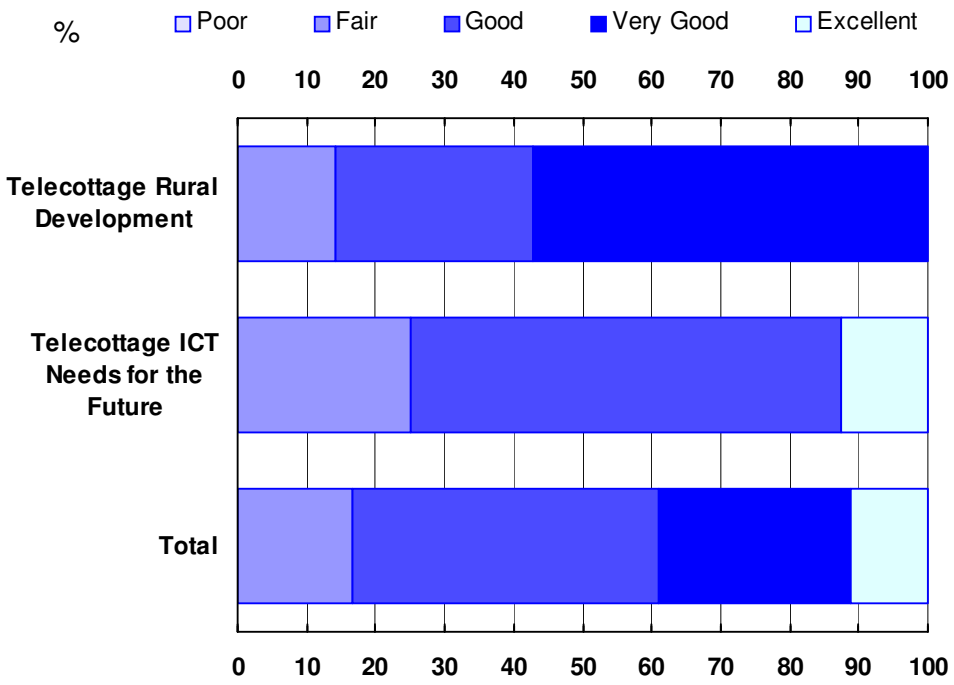
Beyond these metrics of the course content, users provided further feedback highlighting the fact that the same material could be presented in a more concise way. Furthermore one respondent commented how the *ICT Needs* course should be better tailored to the actual requirements of a telecottage manager rather than being too general in its approach.

4.2: Course Testing

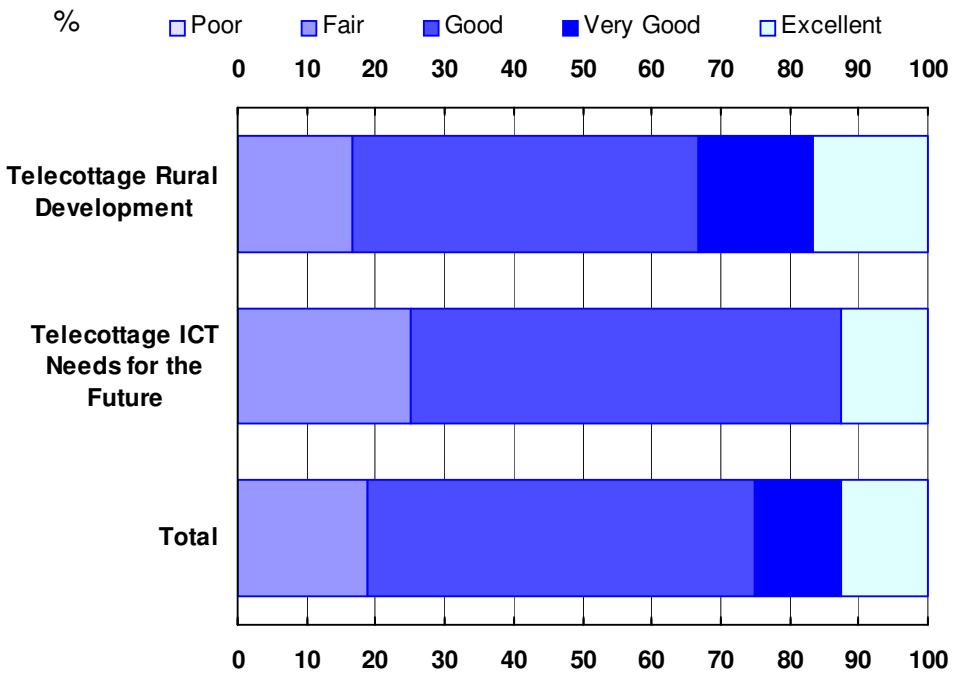
Testing was available only for the courses on *Telecottage Rural Development* and *Telecottage ICT Needs* and overall were rated as being either *Very Good* or *Excellent* by 39% of those who undertook these courses (Graph 4.3).

As for the quality of the tests, over 80% on the *Rural* course and 75% on the *ICT Needs* course rated them as *Good* or better (Graph 4.4).

4.3 Relevance of tests



4.4 Quality of tests



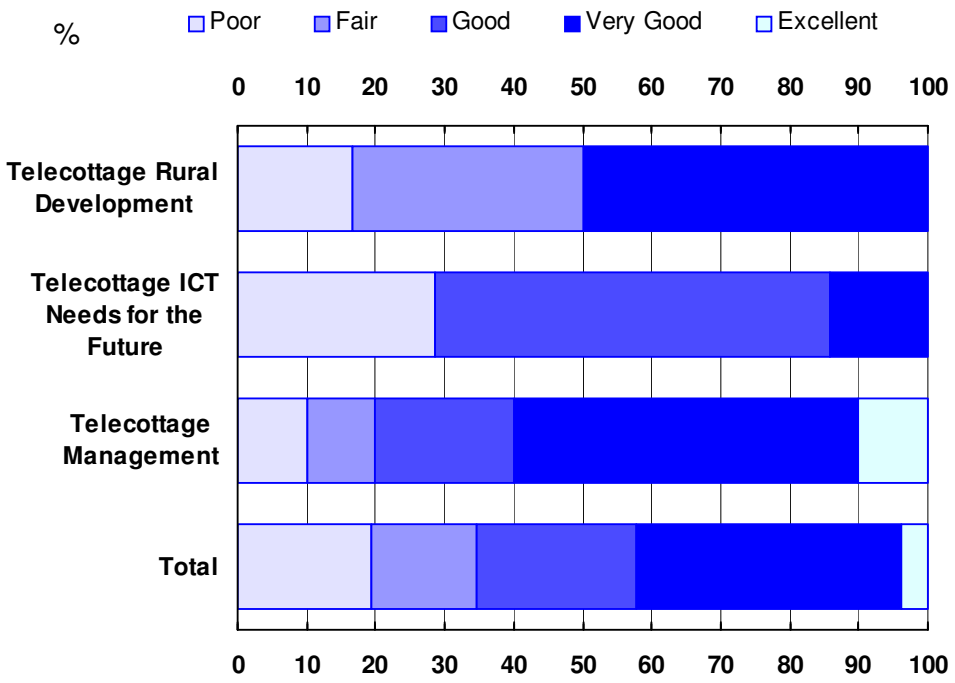
All those who followed the *Rural* course considered the tests to be aimed at just right level (*Suitable*), whereas for the *ICT Needs* course a quarter of respondents found them to be too easy (the rest - 75% - found them to be *Suitable*).

4.3: Use of Multimedia

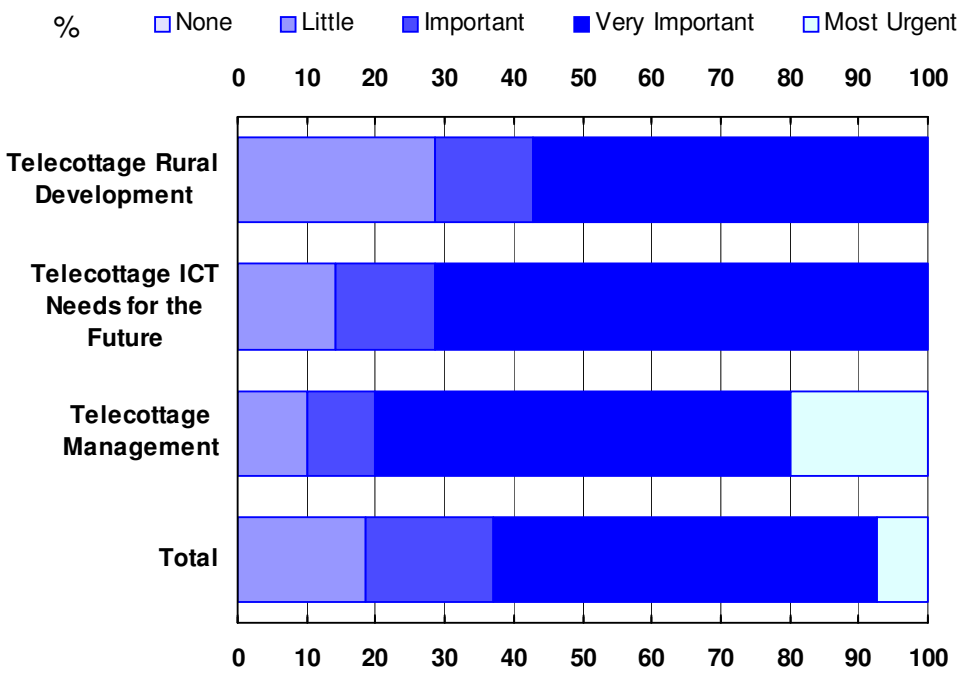
Two main questions were asked of users here: what they thought of the use of multimedia specifically in the Coedu courses and, more generally, how important they felt was the use of multimedia in elearning.

Comparing the results from these two approaches was in fact quite illuminating. The basic message to emerge was that multimedia is considered a *Very Important* tool in the learning process (over 60% of all respondents), but that within the context of the Coedu courses multimedia had been under-utilised (Graphs 4.5 and 4.6). That is, actual user experience resulted in a rating of *Very Good* or better among only 42% of respondents (though this was 50%+ for both the *Rural* and *Telecottage Management* courses). The difference is therefore seen at the other end of the scale: around 20% of users rated use of multimedia as *Poor* overall (almost 30% for the *ICT Needs* course).

4.5 Rating the use of multimedia within Coedu



4.6 Rating the importance of multimedia for the learning process



Of course these results may reflect to some extent user frustration because a number of respondents stated that they had difficulty downloading the multimedia files due to lack of bandwidth. However, other users reported how video files could ideally be edited down and reduced in size to alleviate this problem. Clearly priority needs to be given to the effective use of multimedia material and a balance has to be struck between the size of files being used and their actual impact on - and relevance for - the course as a whole.

PART 5: COURSE WORK

The nature of the elearning environment is that users enjoy the flexibility to access courses as and when they are ready to do so. The learning process can therefore be self-paced, with courses accessed as many times as desired with no limit on the duration of each session.

This part of the survey sought therefore to capture such information from the sample group. Although the number of times a given course was accessed and the length of each session are not in themselves of any great importance, it is interesting nonetheless to examine how users approached the courses in general. One possible outcome is that this information may guide course designers better to develop learning material that can be delivered in more user-friendly, distinct *chunks*, where the effectiveness of the material is enhanced as it is tailored to suit the average time spent on each session by a given user.

Table 5.1 below summarises the results from this part of the survey.

What the table shows first of all is the average number of visits made by users during each course. For all courses combined this averaged around 9 separate visits, or sessions, but this varied considerably by course with each user logging into the *Telecottage Rural Development* course on an average of 14.5 occasions, while for those following the course on *Telecottage ICT Needs* completed it on average with fewer than 5 separate sessions.

Secondly, it was possible to calculate from the answers given the average total amount of time spent on each course. This varied from over 12 hours for both *Telecottage Rural Development* and *Telecottage Management* to just 3.5 hours for *Telecottage ICT Needs*, which is roughly in line with the number of sessions needed by users to complete the courses.

Finally it is possible to estimate the average time spent *per session* for each course. Overall average session length was just over one hour (66 minutes), but this varied from around 50 minutes per session for *Telecottage Rural Development* and *Telecottage ICT Needs*, to around one hour and 20 minutes for *Telecottage Management*. The results here prove to be interesting to the extent that they indicate what is the optimal amount of time an average user is prepared to devote to each session of the course. Though the results do vary by course, the differences are not significant and therefore indicate that in this case at least, regardless of course type, this optimal session time tends to be around one hour. There may well be external factors influencing this, but it does nevertheless provide a useful benchmark against which to plan separate course sections/modules.

Table 5.1: Time and Number of Sessions Spent on Course Work

	Average number of Sessions	Average time spent on course (hours)	Average time per session (mins)
Telecottage Rural Development	14.5	12.5	51.7
Telecottage ICT Needs for the Future	4.6	3.5	50.7
Telecottage Management	9.0	12.2	81.1
Course Not Specified	7.3	9.5	77.7
Total	8.7	9.5	66.2

A further stage of the analysis considered how time spent on following the courses was actually *distributed* across different activities. This is summarised in Table 5.2 below and shows that around two-thirds or more of total time is spent reading the course texts, which is fairly consistent across the three courses. Around 15% of total time is spent either following links or reading supplementary material and, on average, 8% of time is spent carrying out course tests, though in practice this figure is likely to be a bit higher (the figure given here is distorted by the fact that there were no course tests for *Telecottage Management*). The remaining time – 5% on average – was devoted to other activities, which generally amounted to users exploring and familiarising themselves with the system interface and course structure.

Table 5.2: Distribution of Time

% Total Time	Reading Texts	Following Links	Course Test	Other Activities
Telecottage Rural Development	65%	16%	11%	8%
Telecottage ICT Needs for the Future	57%	14%	12%	2%
Telecottage Management	76%	15%	4%	5%
Course Not Specified	68%	26%	4%	2%
Total	69%	17%	8%	5%

PART 6: E-LEARNING METHODOLOGY

This final part of the survey aimed to capture attitudes of users towards elearning in general, highlighting both the perceived strengths and weaknesses of this type of learning. This is an extremely important area of investigation, as, despite the best efforts of providers of elearning – either in terms of systems or content or both - the role of the user is critical for shaping the development – and ultimately the success – of elearning methods. That is, it is all too easy for producers of elearning software and content to disregard the actual user experience and their ability to *engage* with this new learning environment.

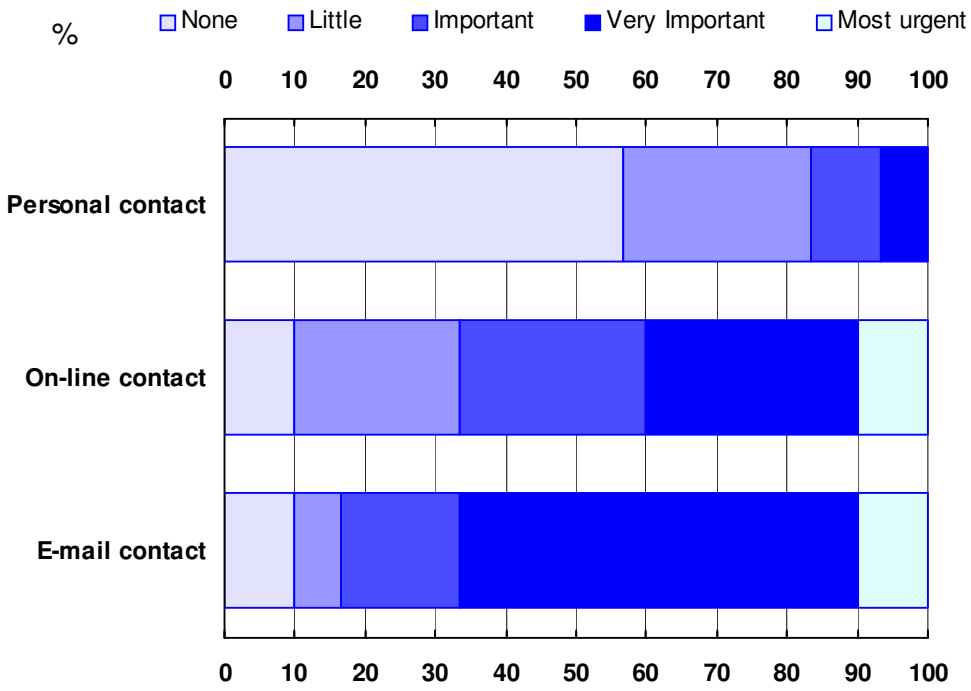
The questions posed in this part of the survey therefore tackle two key issues. The first is associated with the perceived effectiveness of this type of learning, where the user is essentially learning on their own, and how they feel about the need for contact either with tutors or fellow students.

The second asked users about what constituted, in their view, the major advantages and disadvantages of elearning.

6.1: Need for Tutoring

According to respondents it was felt there was a general need for some form of tutoring, though there were marked differences over what form this should take. Over 80% of respondents attached either very little or no importance to direct personal contact with a tutor (Graph 6.1). Conversely 90% felt that some form of electronic contact would be necessary, ranging from *on-line contact* (where there is actual - or almost - real-time support), where 40% of respondents considered this either very important or urgent, or *email contact* (asynchronous contact – i.e. time delay between submission of questions and receipt of a reply). Two-thirds of respondents rated the need for *email contact* as either very important or most urgent. Furthermore, when analysed on the basis of the user's own IT skills, in all three cases the need for tutoring was considered more important the higher the IT skill level. In a sense this is contrary to what might be expected, i.e. that inexperienced users would feel the need for more tutor contact. In fact, it seems that experienced users *recognise the need* for greater tutor support in a setting such as this.

6.1 Need for tutoring

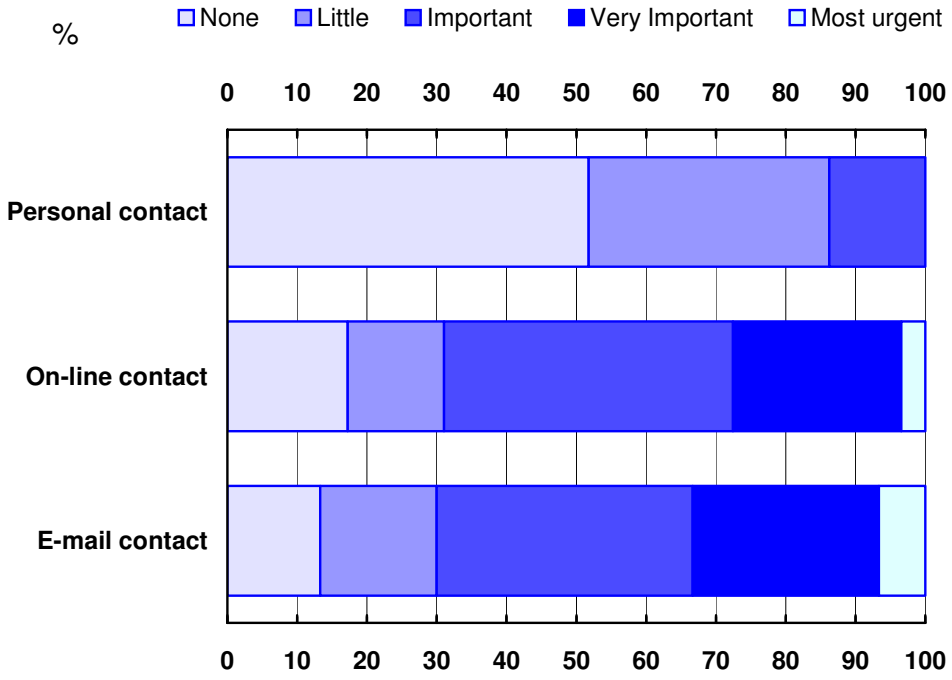


6.2: Need for Contact with fellow Students

Apart from having contact with a course tutor, elearning may be considered a solitary activity because of the lack of contact with fellow students. Depending on the individual, users may feel alienated from their learning environment and miss not having contact with fellow students in the classroom-learning context. The sense of community and the opportunity for having a forum for discussion and debate are key facets of a traditional learning environment and although these may be replicated to some extent in a virtual setting, their impact is likely to be different.

The need for contact with fellow students was not felt to be as strong as that for tutor contact. Again, very little or no importance was attached to direct *personal contact* with fellow students (86%) (Graph 6.2). Greater importance was attached to both *online* and *email contact* (around 70% of respondents believing this to be at least *Important*). Around a third stated that *email contact* was either *Very Important* or *Most Urgent*, which compared with around a quarter of respondents for *online contact*.

6.2 Need for contact with fellow students



6.3: Effectiveness of E-learning Compared with Other Learning Methods

There are a variety of reasons why e-learning is promoted as a viable and important method of learning (flexibility and cost-effectiveness being among those cited most often), but its overall value will in the end be measured by how effective it is in delivering learning in comparison with other modes of delivery. Various means are used in an attempt to measure the relative success of elearning methods and may include the return on investment from elearning (as measured by increased productivity resulting from the training, though in practice this is extremely difficult, if not impossible, to measure) or by test scores of people having completed the course. While these measures may be fairly objective, often they are difficult to derive and so a more subjective approach may be required.

The simplest way of doing this is to ask users directly how they rate elearning methods in comparison to other learning techniques. In this context the survey sample was asked to rate elearning against, first, traditional class room courses and, second, self-study. In comparison with traditional classroom teaching the results were not clear-cut, as around half of respondents believed elearning to be just as effective a learning method. Almost a third though did not consider elearning to be as effective as classroom learning. However, when measured against self-study elearning was clearly judged to be more effective (80% of respondents, with the rest believing it to be equally as effective). In both cases, these results were examined in greater detail to see how they might differ according to whether or not the user had previous experience of elearning. Interestingly, previous exposure to elearning

proved not to be a deciding factor: the same rating was produced by the experienced and inexperienced alike.

Overall, then, there appears to be a positive attitude towards use of elearning methods, especially when compared to self-study. Understandably elearning may have some way to go in achieving the kind of pedagogic effectiveness associated with traditional classroom-based learning, though the results presented here do show a largely positive reaction to the use of elearning.

6.4: Opinions on Major Advantages and Disadvantages of E-learning

In terms of perceived advantages of elearning methods among respondents, those associated with time and location of learning were by far the most common. Great value and importance was given to having the freedom and flexibility to participate in the learning process at any time (19 responses), as well as from anywhere (16). 11 respondents highlighted the availability of information, not just from the course itself but from other internet links too. This was seen as being particularly important in rural areas where access to a wide variety of learning material would otherwise be restricted. Related to this issue is the fact that information can be updated much more quickly online. Other principal attractions of elearning included the ability for self-paced learning (7 responses), the availability of email contact with tutors (5) and the lower costs involved (4).

The major disadvantage of elearning according to the respondents was the lack of personal interaction (15 responses), which is mainly a concern for elearning users who require contact with a tutor, by whatever means, as well as the fact that any contact may well be asynchronous – hence resulting in time delays between asking a question and getting a response. Respondents also expressed general concerns over the solitary nature of this learning method. Another common perceived disadvantage was associated with the need for - and costs involved with – the required internet connection (11 responses). Beyond internet connection issues, there was the wider concern that elearning users would lack the necessary computing expertise not only to select and configure the correct equipment required to participate in elearning, but also to deal with technical difficulties where they arose during the course (11 responses). Finally, 8 respondents highlighted the need for self-discipline when following an elearning course, as problems related to lack of motivation often result in high dropout rates.

By and large, the issues raised above are well known in the elearning field. What is important here is to consider how the current survey sample rates their *relative importance* and therefore which areas the platform designers and course authors need to focus on.

CONCLUDING COMMENTS

What the pilot training programme and the subsequent survey of its users has shown is that great progress has already been made to build an effective elearning platform and introduce good quality course material for use by potential telecottage managers. Furthermore, it has been demonstrated how successful the programme has been in presenting both the platform and course material in a transnational context, thereby paving the way for cost-effective distribution while at the same time maintaining consistency and quality within the overall product.

The system and the courseware were received very well by the sample of users. Moreover, it was encouraging to discover their overall positive approach to the issue of elearning in general, which, it true of the follow-up target of 1,000 telecottage managers, will make implementation of telecottage manager training that much easier.

Naturally concerns around elearning as a learning process remain. After all, elearning is itself still in its infancy as learning method and it will take time to for users to fully adapt to the new environment. In addition to this, distribution of course material and third-party components – especially if done via the internet – require careful consideration, as it is likely that the availability of bandwidth in rural locations will remain an issue for some years to come. As a result during this transition period, alternative distribution mechanisms (such as by CD-ROM) may have to be used as a second-best solution, though the overall pedagogical effect of the system and course material should not be affected.

The feedback provided by this sample group should now be put to good use trying to identify areas of the system and courseware that may require some improvement. On the evidence provided, though, such improvements are likely to be minor, as the project so far appears to have successfully reached the goals it set out to achieve.

ANNEX 1: SURVEY QUESTIONNAIRE

Evaluation of e-learning course

Title of the course:

Part I. Information on the respondent

Name of tester:						No.		0	1	R	M
Testing period		From day		month		To day		month		

1. Sex: Male_ _ Female_____
2. Age group: <30___ 30-40___ 40-50___ >50___
3. Place of living
   Major city (>100,000 inh.) ___
   Provincial town (20-100,000 inh.) ___
   Small town (2-20,000 inh.) ___
   Village/rural area (<2,000 inh.) ___
4. Educational level (highest level obtained):
   Primary Education ___
   Lower Secondary Education ___
   Upper Secondary Education ___
   Higher Education ___
5. What is your occupation?
   Manager or senior official ___
   Professional ___
   Technician ___
   Clerk ___
   Service or sales worker ___
   Agriculture or Fishing ___
   Craft worker or worker in related trades ___
   Plant or machine worker ___
   Unskilled occupation ___
   Other/no occupation ___
6. How would you characterize your own skills in IT before you started the course:
   No experience at all ____
   Some experience ____
   Long experience as user of PC ____
   Long experience as user of PC and Internet ____
   Experience at system level ____
7. Have you attended other courses in e-learning? Yes___ No___
   If yes how many?___
   On what topics?___ _____
8. What is your primary motivation to participate in the course?

Interest in the course topic_ Interest in e-learning___ Others (specify)_____

9. What were your expectations to the course

.....
.....
.....

Part II Technical performance of the system

13. How did you access the course material?
    On-line_ __ Via a CD-ROM____

14. Did you meet an error during the testing period result of which the running of the course failed?

    1. No
    2. Yes. Please describe the failure ……

    ……

15. *(Please mark your answers with 'x' !)* Did it happen during the use of the course, that

	Never	Rarely	Often	Always
A screenpage downloaded very slow?				
A screenpage appeared with errors?				
A screenpage did not download at all?				
Navigation elements functioned too slow?				
Navigation elements functioned with errors?				
Navigation elements did not function at all?				
There are wrong links within the course?				
There are wrong links to outside the course?				
There are problems with installation of missing software components (like Java virtual machine, Mathplayer, Flash Player) ?				
There are Flash, Mathplayer or Java program errors?				

16. Did you have any problem with entering into the Coedu system? If yes, please describe in details the problem you experienced.

.....

17. Did you have any problem with the use of the user surface of the system? If yes, please describe in details the problem you experienced.

.....

18. Please evaluate on a 1-5 rating the course by the following criteria (NB: 1 is *very poor*…5 is *very good*):

Transparency of the registration page	
Obvious notation of navigation tools	
Navigation tools	
Communication surface (correspondence tools, Forum)	
'Help' (to the use of the system)	
Collections (usefulness of them)	
Manageability of the system/the course in the system (in general)	

19. Other (opinion, suggestion regarding the framework, the user surface):

……

……..

Part III Design of user interface

I

	Very difficult	difficult	Easy	Very easy
1. Is it easy to navigate in the system				
2. Can you read the texts directly from the screen				

What is your opinion on following facilities:

			Usefulness			
	Have used	Not used	No	little	some	very
3. Content page						
4. Bookmarks						
5. Internet links						
6. Downloadable documents						
7. Pictures						
8. Glossary of terms						
9. Bibliography						
10. Multimedia						
11. Personal settings						
12. Forum						
13. Notes						
14. Highlighting text						
15. Printing						
16. Search (in the course or lesson)						

20. Suggestions for improvements

……

…….

Part IV Course Content

Course texts

	Poor	Fair	Good	Very good	Excellent
1. Overall rating					
2. Relevance for course topic					

	Too short	Adequate	Too long
3. Length of texts			

	Too basic	Adequate	Too advanced
4. The texts are			

5. Suggestions for improvement of course texts

……

……..

Tests

	Poor	Fair	Good	Very good	Excellent
6. Relevance of having tests					
7. Quality of tests					

	Too easy	Suitable	Too difficult
8. The tests are			

9. Suggestions for improvement of tests

……..

Use of multimedia

	Poor	Fair	Good	Very good	Excellent
10. How do you rate use of multimedia?					

	Not at all	A Little	Important	Very Important	Most urgent
11. How important is use of multimedia for the learning process?					

12. Suggestions for improvements of usage of multimedia

……

……

Part V Course Work

1. How many times have you logged into the course?
2. How many hours have you spent on the course? _ ___

How many hours have you spent on following activities?

3. Reading texts _ ___
4. Follow links/reading supplementary material __ __
5. Course test _ ___
6. Other activities (specify) ____

____

Part VI E-learning methodology

Did you feel a need for tutoring in order to enhance the learning process?

	Not at all	A Little	Important	Very Important	Most urgent
1. Personal contact					
2. On-line contact					
3. e-mail contact					

Did you feel a need for contact with fellow students?

	Not at all	A Little	Important	Very Important	Most urgent
4. Personal contact					
5. On-line contact					
6. e-mail contact					

How do you rate e-learning in comparison with other methods of learning?

	Less effective	Equally effective	More effective
7. Traditional class room course			
8. Self study			

9. In your opinion, what are the major *advantages* of e-learning?

1)
2)… .
3)……
4)……

10. In your opinion, what are the major *disadvantages* of e-learning?

1)… ……
2)… ……
3)……