Educational Multimedia Taskforce

SCHEMA

The Learning Process and Online Collaboration

Lucy Bangali, Simon Booth, Philip Crompton, Barbara Klein, Barbara Schnueckel, Duncan Timms and Liz Timms

More information about the Schema project can be found under http://www.stir.ac.uk/schema/

I·A·T Institut Arbeitswissenschaft und Technologiemanagement Universität Stuttgart

Stirling University Centre for Research and Development in Learning Technology

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Author(s):	LUCY BANGALI, SIMON BOOTH, PHILIP CROMPTON, BARBARA KLEIN, BARBARA SCHNUECKEL, DUNCAN TIMMS, LIZ TIMMS
Contact Details:	spb1@stir.ac.uk

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Executive Summary

One of the prime aims of SCHEMA is to investigate the use of the Internet for a form of continuing professional education based on collaboration between health and welfare workers from different countries and disciplines. The first attempt to design and deliver a course using this approach was a unit entitled *"Community Portraits"* which was mounted in Spring 1999. This report, written by a number of authors, recounts experiences gained during the development, delivery and analysis of the *Community Portraits* course.

The first section of the Report give details of the course design: how long the course was, assessment mechanisms and the division of the students taking the course into different groups. A particularly important aspect of *Community Portraits* was the construction of the groups. For this run, a model was employed that maximized the number of different nationalities in each group. This was a new departure as the *Community Portraits* course has been traditionally run in a face-to-face style with students mainly from Scotland.

The next sections detail some of the problems experienced in setting up the TELSIpro environment for *Community Portraits* and some of the difficulties in the use of the Internet and TELSIpro encountered by students. On the whole participants in the course found the software easy-to-use, although some problems were encountered with Chat and the sharing of documents.

Next the evaluation work is detailed. This is the core of this Report. Evaluation was performed using a number of instruments: Pre- and post- course questionnaires, Emoticons (a named we use for an online form the used visual clues instead of a Likert scale to capture data on the students feeling each week on a number of topics).An analysis of the emails and the Chat sessions that were recorded is also included. Particular features looked at in this analysis are: Activities, Collaboration, Course and Content, Judgments, Language ability and Technology.

To complete the evaluation, when the course ended at number of students were interviewed face-to-face at Stirling by members of the SCHEMA team.

The factors that influence the collaboration are dealt with in section 5 and include features such as the technology and the impact of certain behaviours on collaboration. Lastly conclusion are drawn in relation to the research questions posed in the earlier deliverable in this work package (SCHEMA deliverable: D6.2).

Contents

1. Introduction

Community Portraits is a unique course in the way it exploits online learning environments. Collaboration between the participants is the key to the course: without the collaboration the course simply will not work. Completion of the module depends on groups of students collaborating to produce a common piece of work: a *Community Portrait.* This "portrait" is designed to draw out the similarities and differences between the communities that each participant lives or works within.

The rationale for *Community Portraits* is detailed in Timms (1999). There are three main aspects:

- The community as a context for welfare practice
- Collaboration as a method for working and learning
- The Internet as an enabler of collaboration / collaborative learning

The prime motivation of *Community Portraits* is to encourage participants to explore the communities in which practice with a view to developing an appreciative understanding of the people, their relationships, their norms and their perspectives on social life and the world around them.

For SCHEMA *Community Portraits* had two roles: one to deliver the course itself and the second an evaluation of the approach used with respect to the research questions detailed in D6.2 (Bangali *et al*). The delivery was via TELSIpro, a groupware / simulation environment developed within the University of Oulu.

The evaluation was a joint effort between Stuttgart University (work package leader) and Stirling University. Pre- and post- course questionnaires were developed and mounted in TELSIpro for the students to access. The results from these questionnaires are analysed later.

We also wanted to obtain weekly information about the students' views on Collaboration, Study and Technology. We originally planned to ask the students to keep a diary but dropped this in favour of "emoticons". The students did keep a diary but this was for their personal use. The emoticons were a quick and easy way for the students to register their views each week.

The final component of the evaluation was an analysis of all the email and Chat exchanges between the participants. This was done in order to particularly examine whether collaboration occurred and what type of collaboration: what type of information was being exchanged about the participants, were they asking for help, and did they try and solve problems collectively or individually.

We believe that *Community Portraits* was successful. The participants did learn about their own and other participants' communities and they did collaborate online. This collaboration is a key activity for SCHEMA. Our learning model is based on a social constructivist approach and *Community Portraits* has demonstrated that this style of learning can be delivered online. This is important for delivering online learning in the fields of health, education and welfare where argument and debate are a core component of the learning discourse. Simply delivering pages of text are a start but this must be followed up with collaboration and exchange between the participants of the course if the goals of

continuing professional development are to be met (see also the discussion in Timms, 1999, and SCHEMA deliverable D8.1)

Community Portraits also emphasises group work more than the majority of online courses as the portraits themselves are joint pieces of work. Performing this work did cause the students some difficulties, particularly in relation to getting the permission right so that other group members could read and / or write the document.

2. Community Portraits: The Course

Delivery

The course required participants to work collaboratively in small groups to produce comparative ”portraits” of the communities in which they worked. Groups of three participants, each from a different country, worked together to produce a comparative portrait of their three communities. Participants were expected to use their cultural and individual differences of perspective to sharpen each other’s awareness of their own work community. This collaborative process was also expected to enhance the participants' awareness of their own, as well as each other’s, perceptual frameworks and was to encourage them to recognize the advantages of collaboration for extending ways of gathering and interpreting information, deepening understandings and developing ideas and innovations.

Supervision and support for participants in *Community Portraits* was supplied via the Internet.

The Programme

The planned first four weeks of the *Community Portraits* module was introductory. In the first week, the module information had been put on-line and participants introduced themselves to one another using a suggested, but not mandatory structure, including who they were and their interest in the course. In the second week, they worked in their small task groups to share individual responses to a task on their personal experiences and expectations of communities, and developed this exchange into a group notion of the concept of community. The third week task required the groups to discuss their impending collaboration in relation to the task ahead; to identify relevant strengths and weaknesses within their group; and to consider how these could best be managed for the successful completion of the task. In the final week of the introductory section of the module, group members introduced the communities on which their comparative community portrait was based, each contributing basic information that gave the others some sense of the community on which he/she had focused.

The substantive section of the module that followed occupied weeks five to twelve (eight weeks). During this time the groups worked independently, monitored by the tutor to prepare and complete comparative portraits of their communities. Initially they considered how they chose to interpret the task requirements, and planned how they would work together to complete the task, including any staged deadlines. They were then expected to get on with the work as agreed within the group. In Week 9 groups were expected to review their progress and to provide a brief interim report providing a basis for formal tutor comment and advice.

The final four weeks of the module consisted of presentations of the community portraits on-line in Week 13; mutual assessment of the portraits and debriefing on the module experience and learning achieved in Week 14 and, in Week 16, submission of individually prepared reflective studies on collaboration based on participants' experience during the module.

Assessment

The assessment of *Community Portraits* was substantially weighted towards the group task of completing a comparative portrait of group members' communities that took up the bulk of the module time and made extensive demands on collaborative performance. Seventy-five percent of the final mark was devoted to this on-line presentation. The remaining twenty-five percent was allocated to a reflective study on collaboration prepared by each participant individually and based on the experience of collaboration during the *Community Portraits* module.

Each Portrait presentation was assessed by tutor and participants individually according to a set template and out of a possible 75%. For each presentation marks were averaged across all markers, multiplied by the number in the presenting group then returned to the group for it to decide the appropriate apportionment of this score to its members individually.

The individual, reflective study of collaboration was marked out of a possible 25% by the module tutor.

Organization

The participating group consisted of three males and five females distributed across five sites and three countries. Three groups were formed as follows:

Group 1:	A man from the Scottish Highlands
	A woman from Germany
	A woman from Northern Finland
Group 2:	A man from Germany
	A woman from Mid Finland
Group 3:	A woman from Mid Finland
	A woman from Northern Finland
	A man from Central Scotland

Participants were e-mailed their user name, password and the Web address for accessing *Community Portraits*. They were advised that when they logged in they should browse the online course material. They were also asked to enter an introductory statement about themselves and, if possible, a photo.

The *Community Portraits* trial run settled down to one group of three and one of two which then integrated a late starter. Group two (with its two extras in one community) ceased communication after six weeks. This was particularly regrettable since the arrangement for local face-to-face collaboration was an interesting added factor that we had hoped might enable us to make informative comparison with exclusively online collaboration.

The pattern of activity varied from group to group. Two groups made regular use of the Chat facility to negotiate and complete staged tasks and used documents to present their ideas to one another. Group Three recorded its Chat sessions that enabled the tutor to monitor the content of the Chat log later and make helpful comment if appropriate. By not recording its Chat sessions, not only was Group One's Chat not monitored but concern had been created that they might have been inactive. This difference was discovered in later face-

to-face discussions, indicating a need for guidance on this in future delivery of the module. Participation by Group Two in the early stage without using Chat but presenting individual documents and exchanging mail messages indicated that useful contributions can be made to the work of a small group but that such restricted exchanges are slow to produce collaborative results.

3. TELSIpro : Delivering the Course

TELSIpro was originally designed as a simulation environment with specific reference to the teaching of languages. In recent times, TELSIpro has been recognized as a powerful groupware environment as it allows discussion and Chat between participants. Discussion is managed via the built-in email system (which optionally will send a message to the student's "normal" email address). Chat is supported by a Java applet.

TELSIpro also supports the sharing of materials between participants. The sharing mechanisms are quite sophisticated, allowing students to give read and write access to pretty much any combination of participants.

One of TELSIpro more useful features, that was exploited in *Community Portraits*, is the ability to organize the students into groups. These groups were used to manage the discussions and file sharing for the participants. We set TELSIpro up so that there were three groups of students and the discussions were organized around these groups.

By default, there are three types of user: students, tutors and a supervisor. It is very straightforward to define any additional types, if required. The hierarchy is the obvious one with the supervisor able to control the environment and access all the files (apart from the private emails between the students).

Setting up an Environment

TELSIpro is hosted on a UNIX server. It uses the Apache server (with modperl) and mySQL. From the user prospective (supervisor, tutor, student) access is via any Web browser (ideally at least version 4 of either Microsoft's Internet Explorer or Netscape). Java is used by both TELSIpro's Chat and Editor applets. Chat was used in *Community Portraits* but the editor was not. This means that the 1.02 Java API was required on the PC / Macs for the *Community Portraits* students.

Figure 1: Community Portraits Course

TELSIpro has four areas: Document, Email, Help and Chat. Tutors have the ability to create new folders at the top level of the document area in TELSIpro (the course tutor created everything from “A) Overview” to “E) Feedback” as seen in the figure above). The document area is where we made the instructions available for the students taking the course. If a certain order is required amongst the documents, care must be taken as TELSIpro sorts by name not creation date. We resolved this problem by naming all the documents along the lines of "A) Course Timetable" and "B) Course Details" etc.

Adding files to TELSIpro is relatively easy once they are in HTML format. TELSIpro offers a number of ways to adding documents. For instance, the create a new document screen is below:

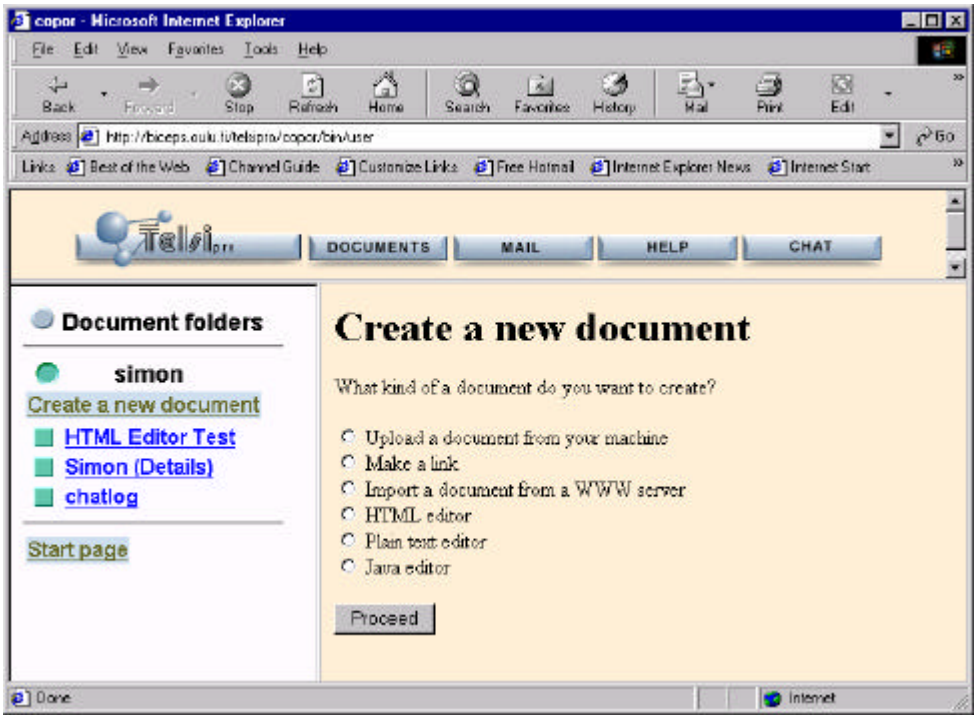


Figure 2: A New Document

The only problem is getting links to other documents correct, as TELSIpro folders are not actually present in the underlying file system. This is best articulated through a simple example. Firstly, lets assume we are adding files to the folder named “simon” and we wish to link the graphic “handsome.gif” to the file “personal.html”. Normally the link would be <IMG SRC="handsome.gif"> as both are in the “simon” folder but in TELSIpro the folder “simon” does not exist in the file system. The file "personal.html" is actually called “simon-personal.html” and thus the link should be (for the graphic) <IMG SRC="simon-personal.gif">. Without the leading “simon-” the files will not appear in the “simon” folder in the first instance. Also as we are dealing with a UNIX system and the case of the file name is important, using <IMG SRC="Simon-personal.gif"> will not work.

Tutor folders are not automatically visible to students. Twice we made the error of making material available to students in the tutor folder. These mistakes were quickly corrected when the students pointed our error. Making the tutor folder visible is simplicity itself and once done the directory remains visible.

Setting up a TELSIpro environment is best done by a user with some basic understanding of UNIX and TELSIpro's naming conventions. Students setting up their own materials would need to be careful to avoid the errors noted above. One easy way out is to exploit the fact that TELSIpro is a Web based environment: links can be placed in TELSIpro that link to files on external servers (this is the second option in the screen shot above). For the purpose of data gathering (and the associated CGI scripts) we used this trick in *Community Portraits.*

Data Gathering

To obtain the data analysed elsewhere in the report we used a combination of Web forms and CGI scripts mounted at Stirling. The Web form sent its data to a CGI script that did two things with the data. Firstly the data were placed in a file on the server at Stirling and secondly the data was emailed to two SCHEMA staff (this redundancy was used purely as a safety measure).

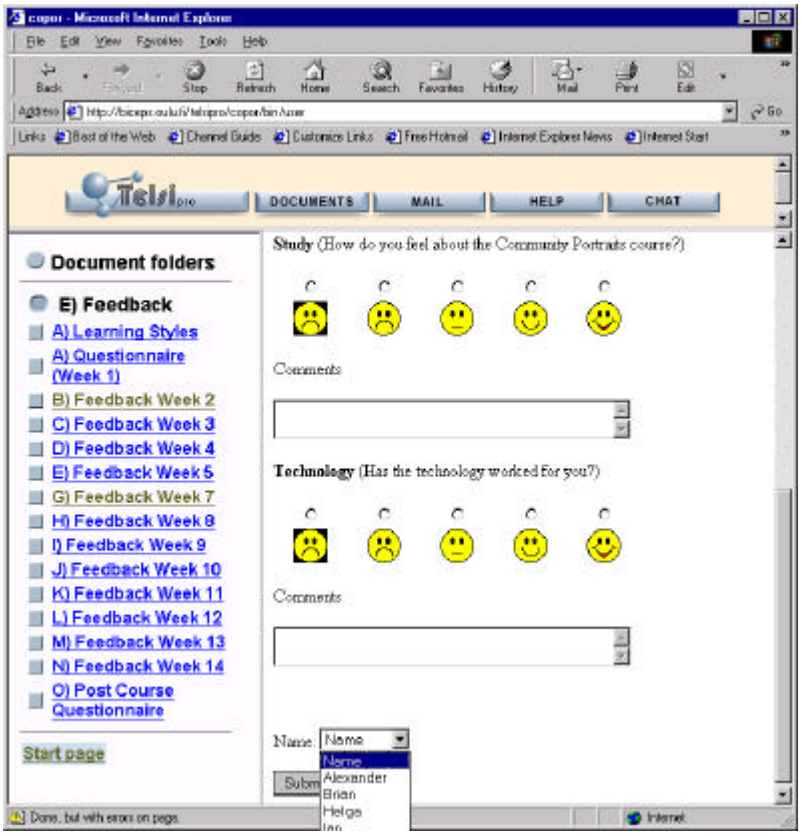


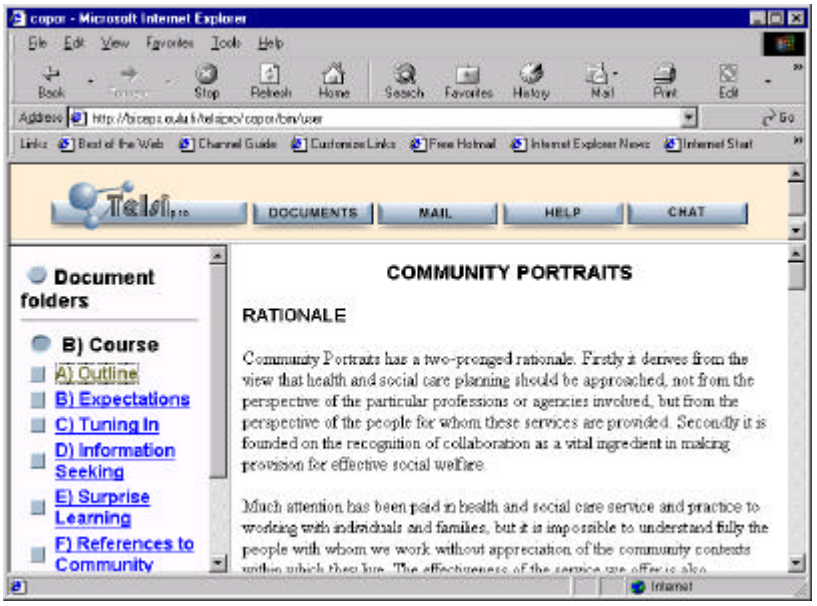
Figure 3: Emoticons

This method worked very well, especially in combination with a Perl program that took the output of the CGI script and generated Excel spreadsheets to facilitate the statistical analysis. The only item of data gathering that required access to the TELSIpro engine (i.e. something that required the programmers of TELSIpro to obtain) was the complete set of email messages exchanged between all TELSIpro users, this included the private emails between the students. Permission to analyse the private email was obtained from the students beforehand.

Different Browsers

One problem that had been anticipated, although not the scale, was how different browsers would display and work with the TELSIpro environment. Even before the course had started, it was discovered that the “Document folders” frame shown below displayed

incorrectly in Netscape 4.0 on the Macintosh (the site was built on a PC). On the Mac, the frame below was laid out horizontally not vertically which meant that the course appeared



to consist of merely an outline.

Figure 4: Online Documents

One of the students also experienced considerable problems using the "Upload" feature available in most browsers. Although the student started the course using a browser that did not support file upload, upgrading to a browser that did, did not resolve the problem. The difficulties were eventually traced by the student to their ISP.

The main problems were caused by the Chat applet. Most of the students and tutors experienced difficulties with the applet, usually associated with access via a commercial ISP. Some problems were also caused by incorrectly installed Java virtual machines. The ISP based difficulties were to do with firewalls and the port number associated with the Chat applet, 4444. By default, this port was closed and so Chat would not function. This is a problem that has been encountered in the online courses run by the Education Department at Stirling[1].

A student in Lapland who had considerable problems configuring the modem in their PC experienced the only other major technical difficulty. They were able to access TELSIpro via the University in Rovanemi whilst the local technical support personnel resolved these difficulties.

We noted that most of these problems would not have been encountered using Network Computers. With the Network Computers we would have a single target browser and a single properly installed Java virtual machine. Equally there would have been no modem

[1] They use FirstClass to support a distance learning course and in the initial stages of the courses many students encountered difficulties contacting the FirstClass server. This was due to FirstClass using port 512 and again ISP's, by default, had not opened this port.

configuration problems because the user receives a machine with a properly configured modem. The one problem we would still have to deal with would be ISPs with port 4444 disabled.

4. Description of the Evaluation

Purpose of Evaluation

The main purpose of the evaluation of *Community Portraits* was to find answers to the research questions defined in an earlier report, D6.2 (Bangali *et al*) These take into account the special situation and demands of a distance learning course (students do not meet face-to-face, they have different social, regional and national backgrounds, different languages and professions). The educational philosophy of SCHEMA is based on the social constructivist approach and seeks to promote group activities, interaction and the development of a sense of community amongst participants. Within the definition of these research questions three different levels were distinguished:

- Level 1: Technology
- Level 2: Learning
- Level 3: Culture

These three levels of inquiry form the basis for the remainder of this section. The basis for the evaluation design together with the results of the data analysis will be presented along with an interpretation of the results.

Evaluation Design

On the basis of the research questions (D6.2) different data were collected from all participants in the course using the following tools:

System Statistics

TELSIpro has an audit function that enables the collection of a number of statistics on usage of the system by all the participants on the course whether a student, tutor or administrator. A student can only view their own statistics for participation. We downloaded the raw statistics for all students at the end of the course and represent them in Table 1 and Table 2.

Course Questionnaires

At both the beginning of the course and the end the students were asked to fill-in an online questionnaire. The first questionnaire was aimed at ascertaining their level of computer literacy and experience of computer-based learning, as well as their attitudes and expectations concerning technology, learning, the content of the course and communication with the other participants (for a detailed analysis see Appendix B). The questionnaire contained 44 questions, divided into four sections:

- Technology: software and computers: questions about students' usage of the computer (how long, which software, etc), the usage of the Internet (for how long, what for, etc), their confidence using a computer and their attitudes towards technology and computers.

- Learning: course and content: questions about students' experience of training courses and electronic courseware, their expectations of the *Community Portraits* course and confidence with English.
- Culture: Virtual Communities: questions about students' attitudes and expectations concerning communication and collaboration with students from other countries via computers.
- Demography: gender, age, qualifications, and work status.

The second questionnaire (Appendix C contains a detailed analysis) was focused on experience with TELSIpro and the *Community Portraits* course and any problems that participants encountered. It also partly repeated questions from the first questionnaire in order to see if there had been a change in students' views of the course, content and presentation etc.

The questionnaire contained 60 questions, again divided into four different sections with questions on:

- Technology: TELSIpro: use of TELSIpro, usability and support of TELSIpro environment, and problems with TELSIpro.
- Learning: course, content and collaboration: questions on the content and structure of the course, teaching and learning, presentation of content and collaborative learning.
- Culture: Virtual Communities: co-operation within the learning groups, collaboration with students from different countries.
- Demography: gender, age, qualifications and work status.

Emoticons

During the course students were asked to fill-in an online form in the form of a visual Likert scale. Rather than using number, a group of five "smileys" or ☺ "Emoticons" were used. The smileys were translated into numbers (1-5) for analysis. The emoticon form had three sections: collaboration, study and technology. The student simply selected an emoticon and added a comment in the provided box if they wished to. Figure 3 shows an emoticon form.

This device was employed as opposed to asking the students to keep another journal in addition to the one required as part of their coursework (The coursework journal would not be seen by anyone other than the student). The online form allowed the students to quickly give their feelings about the course together along with a short comment, if they so wished. This data was used at the end of the course as the basis for the face-to-face interviews.

Interviews

It was only possible to interview face-to-face five of the students (two form Finland, two from Germany and one from Scotland) about their experiences and their problems during the course.

Course Data

System Statistics

The following statistics were gathered from TELSIpro for the students and the tutor on the course:

Student	First session	No. of sessions	Total time (hrs)	No. of documents	Disk usage (kb)	Sent messages	Read messages
1	19.02.99	143	50	6	435	90	254
2	01.03.99	54	31	16	4127	26	367
3	24.02.99	83	83	10	1003	27	213
4	03.03.99	32	52	2	25	7	71
5	19.02.99	8	0.5	0	0	1	31
6	25.02.99	69	2	2	46	7	17
7	02.03.99	48	19	5	94	47	148
8	24.02.99	123	15	8	169	77	229
9	19.04.99	56	20	26	1710	61	396
Tutor	15.02.99	260	30	50	111	130	320

Table 1: Students / Tutor Statistics

Number of users	15*
Number of students	9
Number of folders	29
Number of documents	113
Number of messages	370
Sent messages	543
Read messages	2429
Number of sessions	1204
Disk usage (kb)	8245

* (Including tutor, administrator and evaluators)

Table 2: System Statistics

Pre-course Questionnaire

Asked about their confidence using a computer, more than half of the students reported that they felt confident, two had some confidence and one said a little. Most of the students were

very familiar with using the Internet: seven of them said they were confident in using it and two expressed some confidence. For the use of Email, three felt very confident, four were confident and two had some confidence. Inter Relay Chat (IRC) was not as familiar to the students as WWW or Email, but four of them reported confidence using IRC (although none of them choose this option for using the Internet in question No.8). The others did not feel very confident with IRC (three stated no confidence at all, one had little confidence and one stated some confidence). Most of the students were not familiar with Gopher and FTP. With Gopher just three of the students stated some confidence, with FTP just two felt confident.

In summary: all students but one were familiar with using computers and different kinds of software. Most of students had a positive attitude towards technology and computers (with just one who did not feel very confident with computers).

Learning: Course and Content

Most of the students had already participated in at least a professional training course. The students had taken part in different kinds of courses—some of them about using software: SPSS, WordPerfect, graphics, quantitative courses, Internet-based further-education. Other courses participated in were Social Work, Community Work, and Seminars at the Post Office.

Experiences with these courses were positive: *"I did enjoy, it was a vocational training"*, *"My experiences were positive and good"*, *"Good, but motivation-problems in periods of little time"*, *"They were useful"*, *"All positive"*, *"Mixed. Placements were enlightening. Some course bits were dull"*.

Most of the students did not have experience with electronic courseware. The two who had took part in an Internet-based further education course and in an introduction to Adult Education.

The reasons given for taking the *Community Portraits* course were an interest in the subject, looking forward to having contact and working with students from other countries, and making use of CMC. Some students did not know too much about the course at the start and consequently were unable to state clear expectations.

Most students are very confident with English (four were very confident—three of them were native speakers—and four were confident). Just one student, in Germany, did not feel confident with English.

To summarise, most of the students did not have experience of electronic courseware, but at the beginning of the course they were looking forward to the new opportunities of learning and communicating via computers and the Internet.

Culture: Virtual Communities

At started above, students were looking forward to meeting people from different countries in order to exchange experiences, make contacts and friends. Most of them thought that the collaboration would have a positive impact on their learning. Some were concerned with the new form of communication (especially those who did not have experience with Chat) and language problems (especially the one who reported little confidence in her language abilities).

Students came from different backgrounds but all professionally or academically were from of social work, health or social sciences.

Post-course Questionnaire

Only five of the nine students answered the post-course questionnaire. One group of students ended their participation during the course so they did not answer the second questionnaire and one person who completed the course did not fill in the questionnaire. One of the students who did not complete gave as a reason that they were not really interested in the subject whilst another had conflicting work commitments.

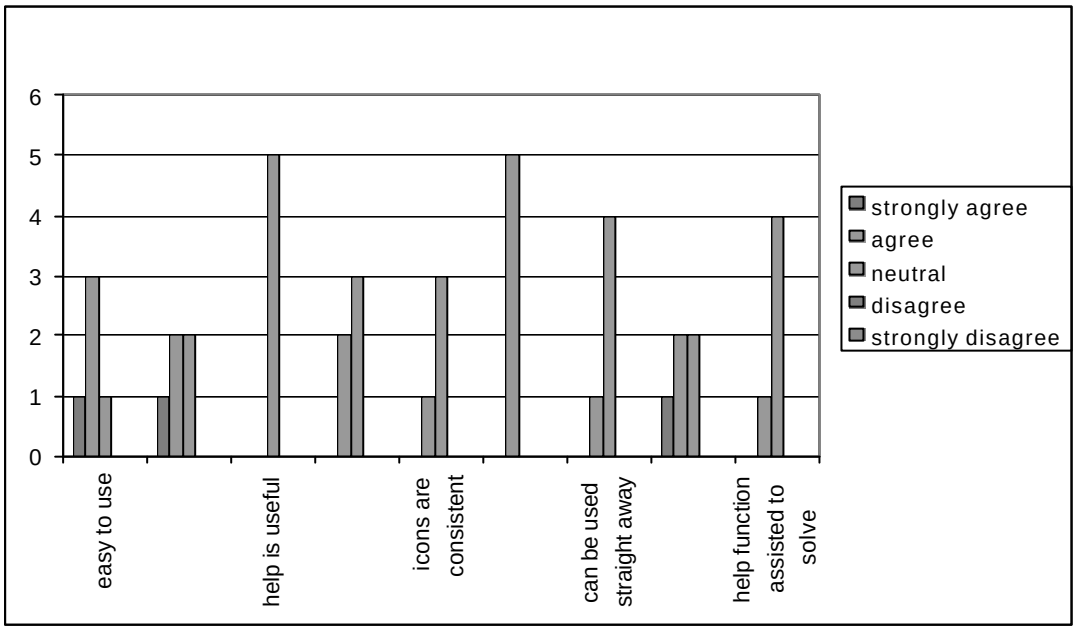


Figure 5: TELSIpro usage

Online Learning

Almost all of the students felt confident using the system and were positive about the opportunity to take the course irrespective of time and distance.

Problems with TELSIpro

Listed below are problems encountered by the students using TELSIpro.

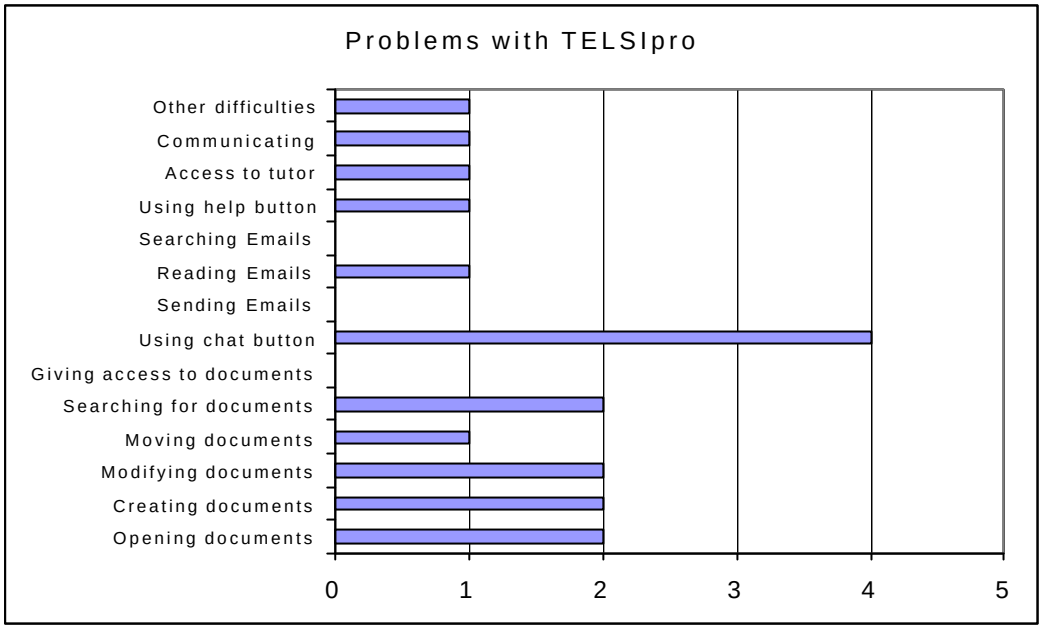


Figure 6: Problems with TELSIpro

Four of five students had problems using the Chat button:

"It was not always there for me nor available to others."

"It only functioned once throughout the whole course."

"This was the major problem."

"The Chat button was missing from time to time especially at the beginning of our course and some members of our group had this problem most of the time, which, of course, made communication rather difficult"

"Sometimes it didn't exist at all."

Students were not able to communicate reliably using the Chat button. The reasons for these problems are discussed in section 3.

The responses indicate that TELSIpro was easy to use and needed little time to learn. Nevertheless some problems occurred during the course: Students were not really satisfied with the navigation, structure and icons of TELSIpro. Apart from the problems with the Chat button the other main problem concerned the management of documents, which is also dealt with in the section 3. Use of Email did not cause any problems.

Learning: Course, Content and Collaboration

Below is a summary of the statements concerning the structure of the course.

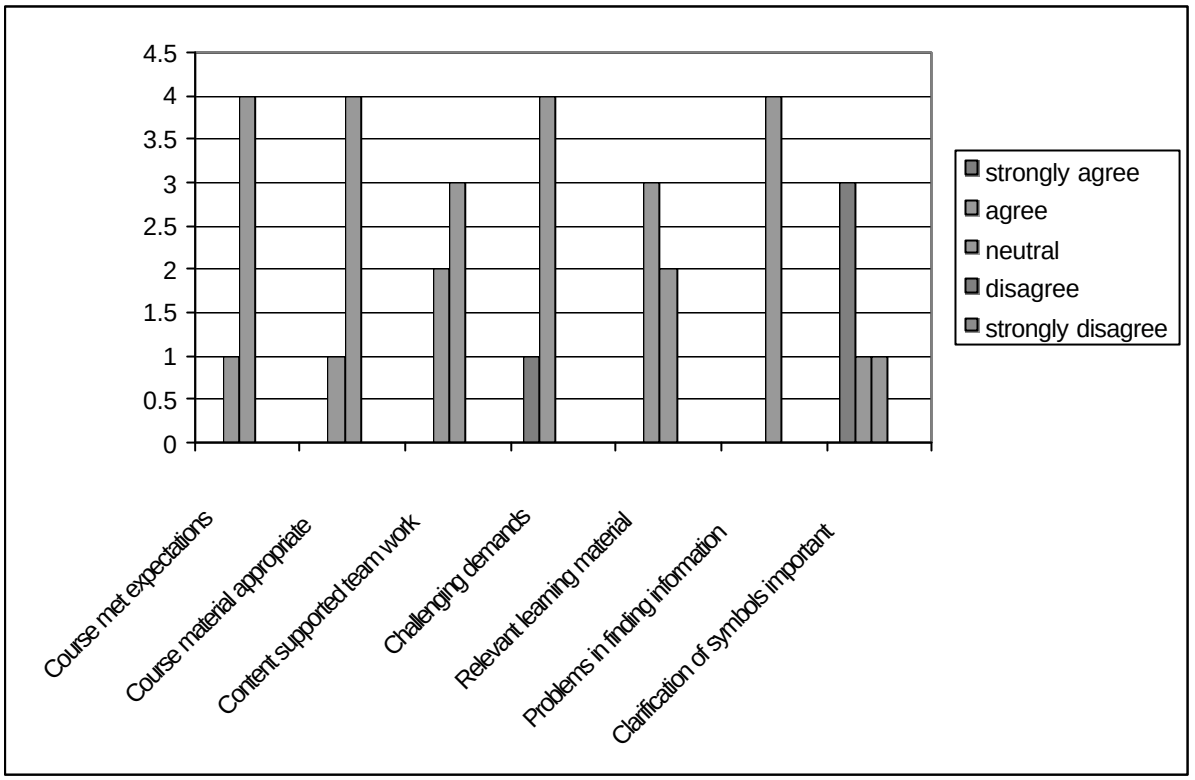


Figure 7: Course Content

Many students did not have a clear opinion about the statements concerning the course content. None of the students were dissatisfied with the course material or the given information but only a few of them stated that their expectations of the course had been met. All of the students thought that the course was demanding and challenging, and that the clarification of course specific jargon and symbols was necessary.

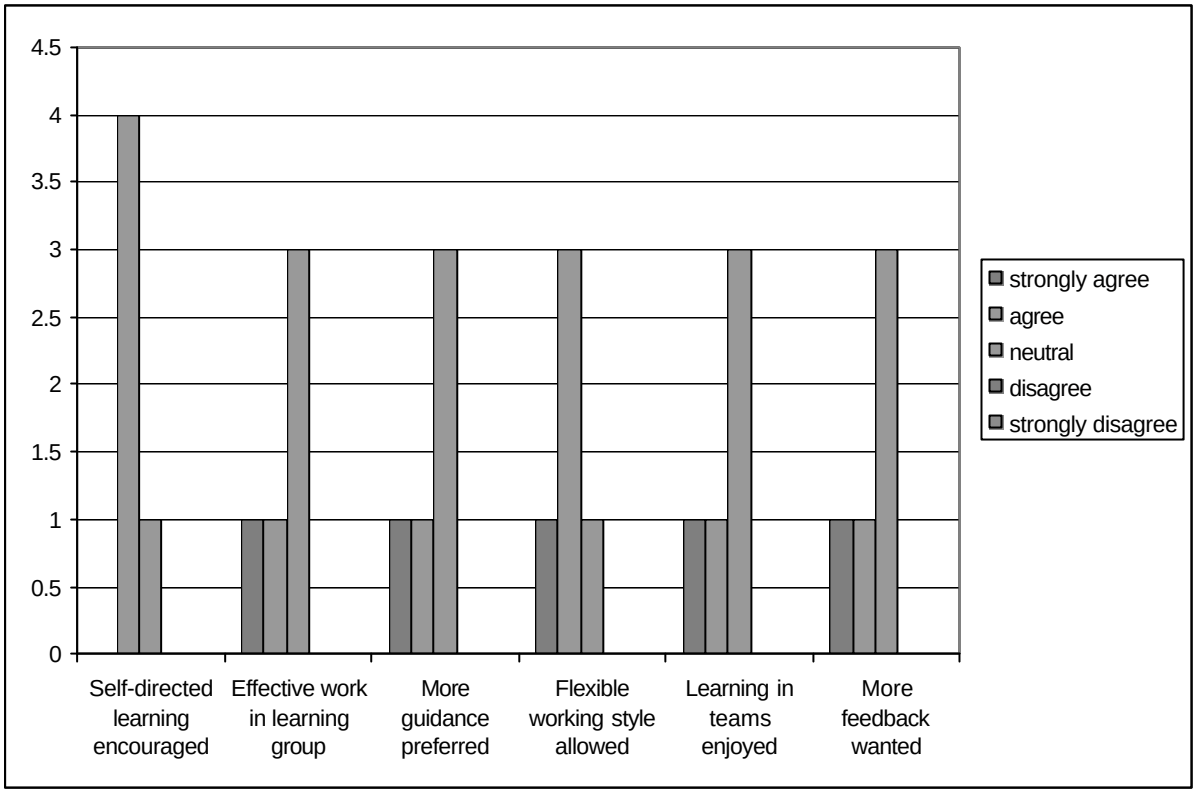


Figure 8: Teaching and Learning

Most of the replies in this section were neutral with a few being more positive. No negative responses were recorded. Those features seen as positive were that the course encouraged self-directed learning and allowed for flexible learning styles.

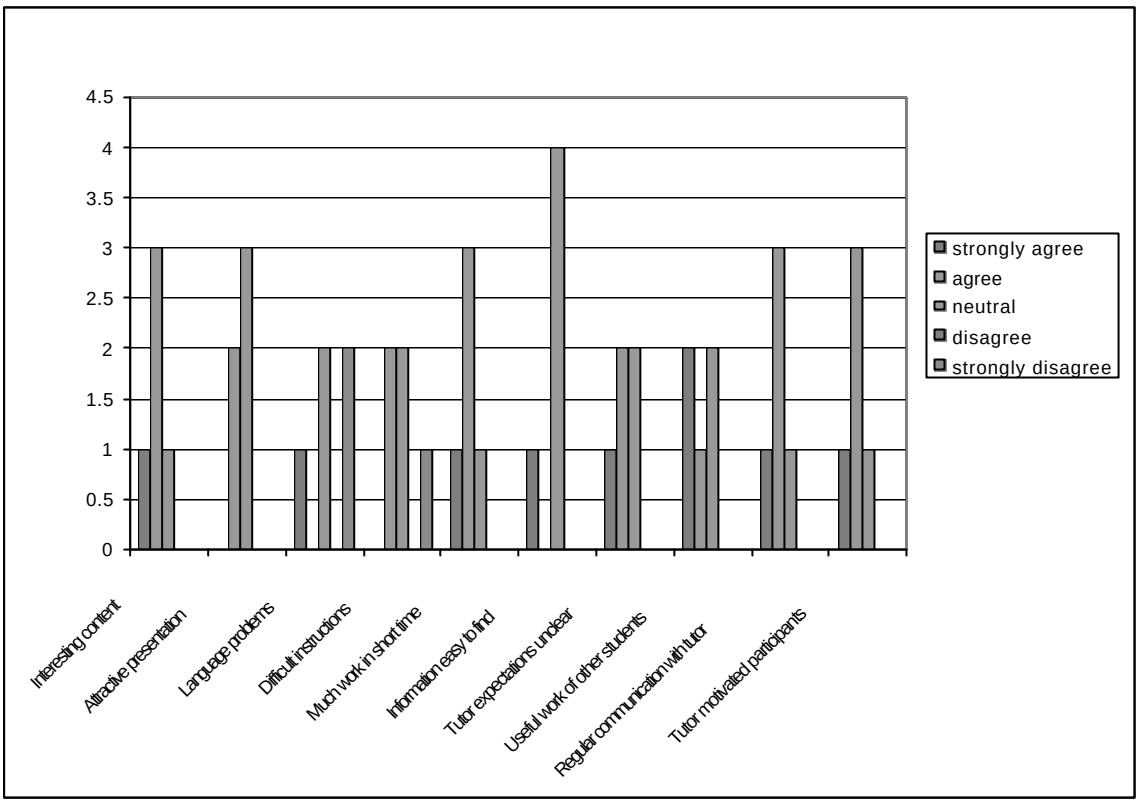


Figure 9: Course Presentation

The students thought that the content of the course was interesting but were rather more neutral when it came to the course presentation, instructions and expectations of the tutor. They did not state any significant problems but most of them felt that they did not really know what the tutor expected and where to find relevant information and instructions. On the other hand most of them said that were in regular contact with the tutor who tried to motivate them. Overall they felt that there was too much coursework to do in a short period of time.

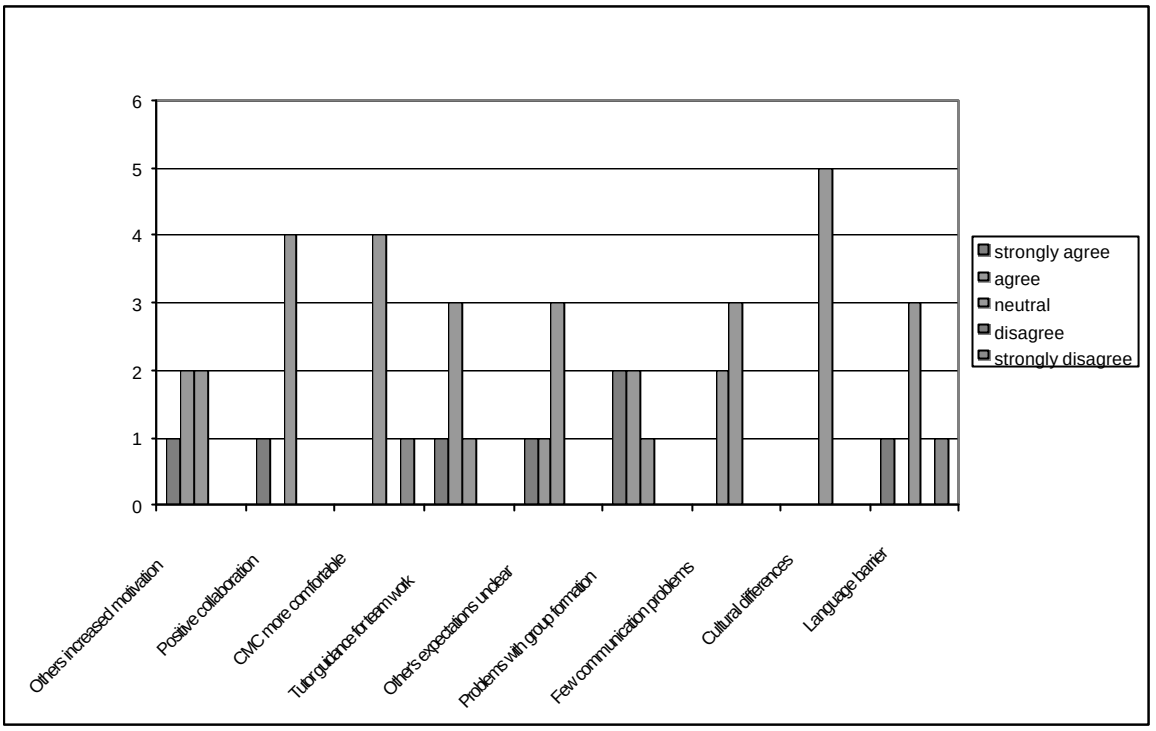


Figure 10: Collaborative Learning

Only one of the students had any difficulty in communicating in English. In respect to the questions on collaboration, most students reported some problems especially at the opening of the course. Overall the collaborative work within the groups was not easy for the participants especially initial group bonding. However, nearly all of them said that they had had a lot of support from the tutor to facilitate collaborative learning.

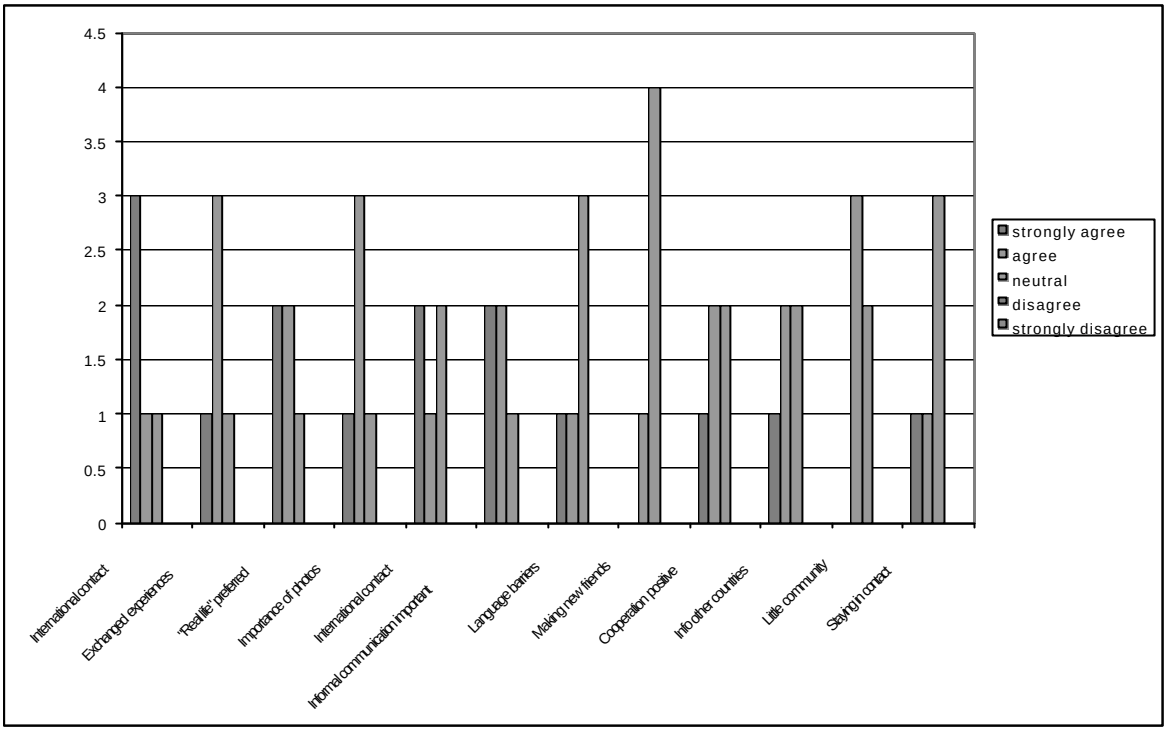


Figure 11: Virtual Communities

The students enjoyed “meeting” students from other countries and exchanging experiences but most of them would have preferred a ”real life meeting” and wanted to see student photos in order to get an impression of the others. Informal communication was an important part of the course and those students who thought so stated that they felt like a ”little community” and that they made friends during the course. Language was a barrier for some of the students in preventing them acting in a community with non-native speakers. Comparing the answers of the two questionnaires it is obvious that a low confidence in language skills were linked with language problems during the course.

There were no obvious connections to link the answers concerning the expectations and experiences with online co-operation (having initially stated that they thought that communication via the computer would be difficult they did not subsequently answer that it had been difficult). Some students had different expectations from their experiences. Just one question shows a link between expectations and experience: those students who did not expect to make friends during that course state that they did not make friends (those that expected to make friends report that they did). Little can be attributed to this.

How do you feel about the Community Portraits course: Emoticons

The following data was collected from the feedback from the online form using the “emoticons”. The form is grouped into the three sections (collaboration, study and technology). Each week the participants were supposed to visit the form and indicate (on 1 –

5 scale) their views on the collaboration, study and technology. An example of an emoticon form can be seen in Figure 3.

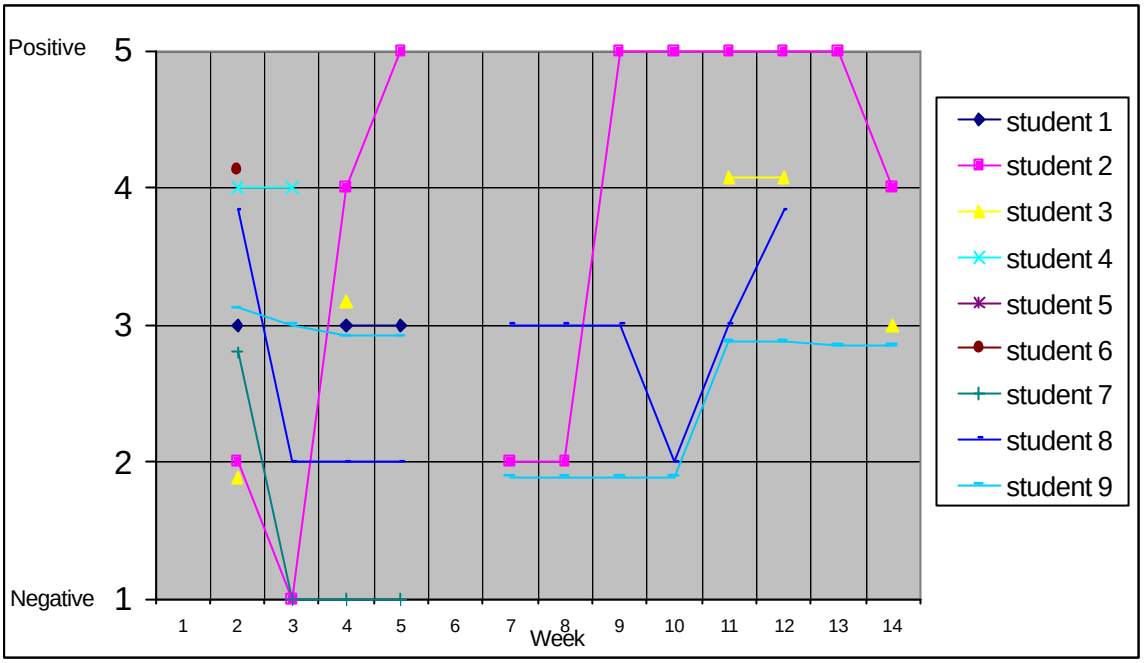


Figure 12: Collaboration Between Students

This figure above indicates the views of the participants on collaboration for the duration of *Community Portraits.*

The participants started at different points at the start of the course in the week two. Then most of the scores fall or stay constant. The third week was hard for the participants since it was at this time that the groups were formed. Then most of the scores stay at the same level for the next two or more weeks (except student two who changes from 1 (very sad) to 5 (very happy) after the formation of groups problems had been solved). None of the students answered for week six and only three students continued giving their scores until the end.

Students one, two, three; four, five, six and seven, eight, and nine worked together in groups. Group two gave up after a short time although their scores for collaboration at the beginning are quite positive (student five did not take part in any activities at all). The scores for group one were not equal for all the participants and changed during the course. It is clear that at the end of the course (except the last week) the two remaining students who answered the emoticons were happy about collaboration. Group three became less pleased about collaboration at the start and during the course the scores for collaboration were neutral or sad (for the two students who answered the emoticons constantly).

Overall, collaboration was difficult at the beginning but for most of the students that remained in the course, collaboration became easier. Week six is the Easter break.

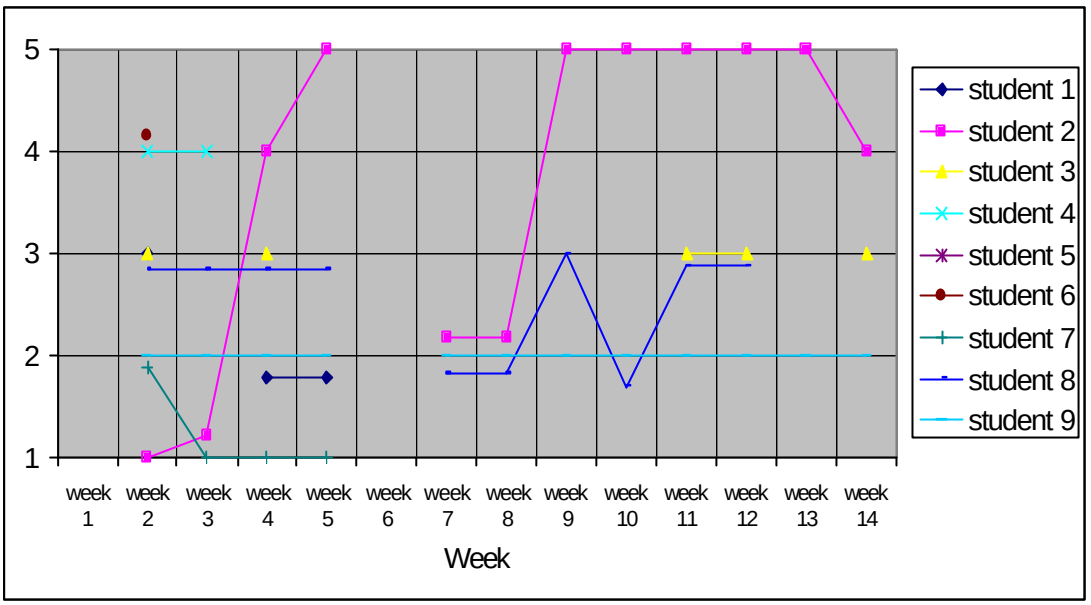


Figure 13: Study

This figure shows the participants' views on their progress on the course.

Again at the beginning there are very different initial positions for the participants (from 1 (very sad) to 4 (happy)). Most of the scores stay on the same level for the following weeks, student two rising from 1 to 5 and student seven one going down from 2 to 1.

In week six, the Easter break, none of the students did the emoticons. After week six there are only three students who did the emoticons (almost) every week (students two, eight and nine). The starting point in week seven is low (2 for all remaining participants). Student nine stays on the "sad" level until the end of the course. For student two, study improves from 1 to 5 and will stay there until the last week of the course. Student eight switches between 2 and 3 (sad / neutral). Student three re-appears for weeks eleven, twelve and fourteen and is neutral.
Group three students feel neutral or negative about their studies at the beginning and this does not change over the course.

There is little data to draw conclusions from for the students progress on the course. After the Easter break all those that respond rate their study as "sad".

Did the technology work for you?

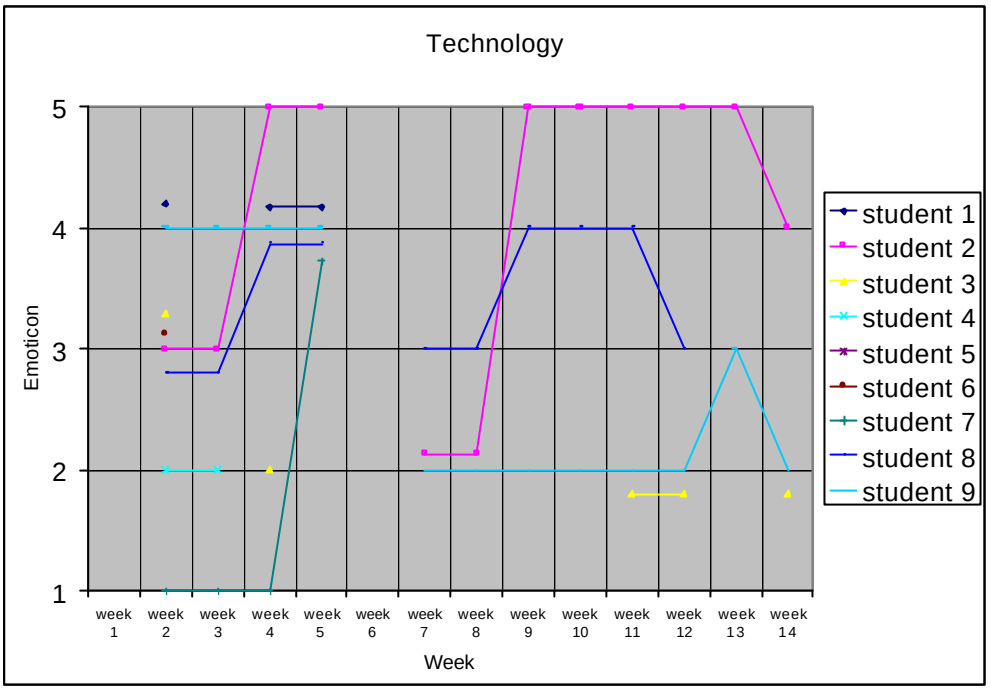


Figure 14: Technology

This figure shows the views of all the participants concerning the technology. As in the first two sections, students began from different points at the start (from 1 (very negative) up to 4 (very positive)). One member of group three reported problems at the beginning but from week five onwards all members of the group were more positive. Scores never rose as high as before the Easter break and one student felt very negative about the technology.

Most students did not have severe problems with the technology and for most of the students the scores became more positive over course. The vast majority of the technical issues centred on the Chat button.

Group	Student	Collab	Study	Tech	Mean	Overall
1	1	3.50	3.42	3.83	3.58	++
	2	3.20	3.00	2.20	2.80	-/+
	3	3.00	2.33	4.00	3.11	+
		3.23	2.92	3.34		
2	4	4.00	4.00	2.00	3.33	
	5	1.00	1.00	2.50	1.50	
	6	4.00	4.00	3.00	3.67	
3	7	1.75	1.75	1.75	1.75	-
	8	2.89	2.67	3.44	3.00	+
	9	2.58	2.00	2.83	2.47	-/+
		2.41	2.14	2.67		
	Mean	2.88	2.69	2.84		
		+	-/+	+		

Table 3: Summary of the emoticon feedback

Overall the students felt slightly positive on collaboration and technology. Their position on their studies appears to be rather neutral. Group one appeared to be have been more positive about all three aspects of the course than group three who were more neutral without being negative.

Interviews

Five students were interviewed after *Community Portraits* ended about their experiences and problems during the course. The information they provided was grouped into six different sections (similar to the sections used in the questionnaires and in the emoticon section):

- Organization
- Technology
- Collaborative and learning process
- Course content and presentation
- Virtual community and online learning
- English language

Summary of the Interviews

Organization

- Introductory materials, web-site address, password and user ID were received late; so the students had difficulty getting acquainted with the course process at the beginning and lost two weeks before settling down to course work.
- For the other students organization was good, they received password, introductory course materials and user ID on time.
- One of the students would have preferred an online meeting once a week to analyze and plan work.

Technology

- Problems named during the interviews:
  Opening documents
  The Chat button
  Creating and modifying documents
  Slight problems with the structure of the email (the changing numbers above were confusing)
  A better overview with help, a “tree-like” structure would have been better
- Other students indicated few problems with technology
  They enjoyed the web based software and its speed (and that they could take the course from home)
  They became acquainted with the programme after 3-4 uses.

Collaborative learning process

Some of the students reported collaboration problems:

- Technology (Chat button) problems of planning a discussion forum in TELSIpro
- Time management so they could not regularly collaborate
- Just a little contact with one person in the group and no contact with others
- Different understanding and points of view on the task
- Time consuming decisions within a group
- Difficulties finding a date for chatting
- Difficulties producing a common paper due to lack of sufficient co-ordination among the group (e.g. due to illness)
- Little collaboration concerning the common topic of the group
- Group members that were not committed. It would have been better to know about other experiences, practical problems, and hints.

- Little support from the other group members
- Very intensive workload
- Too little division of work within the group
- Little collaborative work among the three groups as each group worked too independently.

But the students also named positive things about the collaborative process:

- They had a sense of belonging in the group, which is a positive feature of the online learning.
- Students reported that the collaboration was enriched because of their different educational backgrounds.

Pedagogy, Course, Content and Presentation

Students said about the course:

- It was too demanding in both time and content
- Too much input was needed (Interviews, write-ups, photography etc.)
- Assignments were difficult to understand
- It needed a lot of field work, but very little time was available to do research so it became very stressful
- Motivation from the tutor was very little at the beginning leading to little motivation among the group members
- Participants were not sure what was expected of them at the beginning of the course
- There should be some online lectures, audio tapes, books and phone conversations
- There should be some more guidance regarding the content and comments from the tutor and others

Positive things mentioned

- Appreciated the flexibility of online learning in comparison to classroom learning
- Online learning develops various learning abilities such as using TELSIpro, digital cameras, evaluation of course work, developing communicative skills and thinking before writing.
- Could broaden personal perspective of own community
- Gained a lot of experience from the course, because it helped improve English skills and technology usage

Experiences with virtual community and online learning

- Had fun communicating with workgroup online, it sometimes felt like “real” life.
- Through relaxed deadlines, more personal communication followed, which related social and emotional messages into a common language of the group.
- Asynchronicity allowed each student ample time to formulate ideas and contribute responses
- The text based medium allowed composure, reflection and editing of responses, which aided seeing different versions of the same community portrait.
- Motivated to do well due to working with peers—motivated to do more information research.
- Provided a very good international atmosphere with various kinds of experience from other countries.
- The planning online was a bit difficult especially building up a common timetable.
- Would have preferred online photos of *all* participants and their backgrounds.
- Compared to the classroom where communication is spontaneous, online learning encourages thinking before writing.
- A classroom can afford silent students, but online learning needs students to actively participate
- The learning process provides a democratic atmosphere
- If the technology does not work, everything comes to a standstill
- Needs more self-discipline than a classroom situation
- The coursework could be done irrespective of time and space
- The learning style online was independent—encouraged the of taking initiative, self-supervision, solving problems and logical thinking

English Language

It was surprising that given the wide variety of ages, backgrounds and cultures that there were no major problems, though language was a barrier for one or two of the students. Overall the students coped well with the tasks and communication without suffering too much disruption or distraction.

Analysis of Email

Students were asked for their permission to examine their email and Chat. Key words were used to organise and structure email and Chat. This was done in order to get further information about work, problems and the processes of collaboration and co-operation between the students and between the students and tutor.

Within the email several key words were used which were drawn from the following categories: activities, collaboration, course and content, judgments, language and technology. The benefit of this type of qualitative analysis over and above a strictly quantitative approach is that the there is more of a sense that the analysis has been structured in-context and that references and comments are not drawn out of their contextual framework (Littleton and Light, 1999)

Keywords concerning activities: comment, discuss, find, meet, respond, search, suppose

Students mainly wrote about the work they did together: the production of their community portraits. They asked the tutor and the other students for comments and made comments on the other's documents, papers, snap shots and portraits. They asked for comments whether they understood the tasks of the course.

They had to discuss how they should manage their work, their collaboration and how to proceed. They tried to find a definition of what communities were at the beginning of their work. They discussed the contents of their documents, the similarities and differences of their communities, how and when to arrange times for a Chat (or even a face-to-face meeting) and about the organization of their community portraits in general.
At the beginning many students reported problems with finding course details and relevant documents; they did not know how and where to search for them. So searching for the documents was very time consuming (and frustrating). Some participants were not able to find their group members at the beginning.

People tried to meet via the Chat option (which was not very easy since the Chat button would often not appear) and wished they would be able to have a face-to-face meeting. In the beginning, work in the online community was not easy for the students. One of them commented: *"Working with you on the Internet is difficult: how best to respond on silence?"*

Another problem for the participants at the start was that they did not know what they were supposed to do; which group they were supposed to work in; what was supposed in the assignments, the snapshots and the community portraits; and when the date for the final product was.

Keywords concerning collaboration: communication, community, cooperation, discussion, group, leader, meet, message, participate, problem, write

Emails concerning the community (and connected keywords) were mainly about students' work on their communities. In particular, the problems of defining communities and the content of community portraits. The students also shared information about themselves, they wrote about their work in groups. They requested help at the start to determine the other members of their group. Having found some of the group members they tried to find missing members, tried to share the work, came to first decisions on how to proceed and discussed who should take the lead in the group.

During the course students wondered what happened within the other groups since they felt uncertain about their own activities (whether these activities were correct). Some of them said that working in groups via the computer was frustrating since one is extremely dependent on the communication (which did not work all the time—e.g. the Chat button and some students had problems with the different kinds of email lists). A different kind of

problem occurred with chatting since the participants did not take into account the (three) different time zones when arranging a Chat meeting. Problems also occurred with sharing documents (initially students did not give the correct permissions to the others).

Besides the communication about the course and the tasks some informal communication was part of the emails. Students sent messages for Easter and informal comparisons of their cultures were undertaken: "*Do you get StarTrek in Germany? If yes how do Klingons speak in German because I can't understand them in English*".

Course and content: comments, compare, document, draft, find, focus, information, paper, prepare, present, sense, similarities

When working on their community portraits the students collected material on their own community (after trying to define what community means) and started to think about the similarities and differences between their communities. Students had problems finding relevant information about the course in TELSIpro, e.g. background information on the Web and they had difficulties exchanging the information they had. They produced first drafts and papers but were not really sure about what they were supposed to do (and sometimes "missed the point" of the task). Students were also uncertain about how to prepare and present their material to the other groups (acting as a group, presenting their individual material, in which form and when).

Some students had problems with the timetable since work (especially writing up the information they collected and joining it with the other students' documents) and collaboration (via email and Chat) were very time consuming.

Judgements: confused, frustrated, up to date, wrong

"Judgements" of the course and the collaboration can be found amongst the email. Students were writing about confusion at the beginning of the course, frustrated with technical problems (especially Chat) and the difficulties of group working. They also did not know where to find information or documents, which email list they should use and they made mistakes using TELSIpro (e.g. "pressing the wrong button").

Language: ability, command, English, foreign, language

Some students apologized more than once for their "poor English" and hoped that others were able to understand them (the native speakers encouraged these students to go on using English). Due to their confidence in the language, the native speakers often took a leading role in the groups. The tutor tried to find a solution to the language problems in one group (where one student was very uncomfortable with English) by suggesting using another language (but there was no other common language available).

Technology: Chat, email, help, line, logging, send, problem, upload

The worst technological problem was the disappearing Chat button. This meant that they were not able to communicate with each other using Chat but had to use email instead (which did not make communication easier). Having problems with TELSIpro email caused some students to use their "ordinary" email (this did not occur very often). Help was provided by the system administrator with uploading documents (the browse button only worked with certain browsers) and setting the correct access to documents.

Chats

Due to the technical problems noted earlier, not too many chats occurred, even fewer were recorded.

Within Chat, the students attempted to sort out what the task was and what they were supposed to present (they did not know what was expected as there was "so much information"). They exchanged information about problems they had with technology, language and provided information about their communities. They tried to develop rules for their collaboration (ground rules containing honesty and respect for each other's view, background and cultures, regular Chat schedules, timetables, sharing work and supporting each other). They practiced and developed *"new skills at communicating"* since they were constrained to use CMC and they tried to overcome the uncomfortable feeling caused by communicating this way.

Chat was used to take decisions about the kind of material and information groups wanted to collect about the communities and about the form they wanted to present it.

5. Collaboration

The course was based on a social constructivist view of learning and as such had been developed around a collaborative learning environment. The design of such environments may adopt the Piagetian model of conflict-based mechanisms or co-constructive processes as advocated by Vygotsky (Littleton and Light, 1999). *Community Portraits* made use of the latter approach and designed both the learning tasks and the allocation of the majority of the marks around collaborative tasks.

Developing Collaboration: Technological Issues

The erratic behaviour of the technology may explain some hesitations in the collaborative process. In particular, Chat buttons sometimes disappeared from all participants' screens, and sometimes disappeared unpredictably on individual machines. For some participants the Chat button was never available.

Such technical problems also tested collaborative skill. When queries about technical problems were raised in the "everybody" mail tray a "me too" response, rather than a separate statement of the problem, represented a collaborative approach to the engagement. This may seem a small point, but it has significance for understanding what helps or hinders the development of effective CMC.

Responses from participants indicated that ease-of-use of the technology is highly significant for the development of collaboration and that the reliability of the technology is crucial. Given the importance of small talk in the development of successful collaborative relations, the unreliability of Chat buttons is serious.

Developing Collaboration: is Polite Behaviour Helpful?

The core task of *Community Portraits* required participants to make comparisons within a collaborative process. The main comparisons were of communities but important subsidiary comparisons relating to self and others were also expected. All these expectations were indicated in the introductory material for the module. Activities in the first four weeks of the module were structured to set material from different group members side by side for identification of similarities and differences.

Observing early online exchanges between people of different gender, nationality and culture about communities in different countries, it was striking to note the disproportionate effort being put into identifying similarities rather than differences. It appeared as though similarity might be pursued to ease the development of harmonious collaborative communication. Were cultural patterns of polite behaviour being observed with a view to establishing the collaborative relationship? The place of politeness in the collaborative process was perhaps an issue. Polite behaviour here refers to behaviour governed by rules of social engagement determined culturally and applied generally without attention to the legitimacy of negotiation between parties to specific social relationships. Since time had already been identified as a factor in online collaboration, behaviour in the relationships needed to contribute positively to the furtherance of good communication. Even neutral

interchanges would hinder collaboration insofar as they took up time without pushing the relationship forward.

In this instance it is easy to suggest that attention to differences rather than similarities between communities might yield more interesting discussion. More sensitive, in a general sense, is the need for recognition of interpersonal differences and for participants in collaboration to respond to these differences. Responding to one another as similar beings is to encourage relationships that are based only on the features of the other that I recognize in myself: in effect a denial of their individual identity which they may find demoralizing or challenging, but rarely constructive. Rigid adherence to the external rules of social engagement (politeness) has a similar impact. Where collaborative tasks are involved, the risk of missing the range of contributions that differences could offer to the best outcome is high and wasteful. The importance of differences lies not simply in the fact of their existence, but in the opportunities they create for personal authenticity in interpersonal relationships, maximizing individual initiative, multiplying ideas and offering a richer platform for further development of the interpersonal / collaborative relationship. Recognition of this will be built into revision of *Community Portraits.*

Developing Collaboration: the Significance of Trivia

Reflecting on the difficulties encountered in fostering collaborative working relationships in *Community Portraits,* insight from comparison with face-to-face experience may be useful. Participants in *Community Portraits* have made much of their problems with Chat buttons and we have noted above the link between this and the importance of trivia in the development of effective collaborative relationships. To be more accurate, if we are to know how best to promote effective collaborative relationships we may need to switch attention from issues of principle such as shared purpose and task definition to the more humble contextual aspects of good social relationships: irrelevant exchanges, humour, eating and drinking together, etc. etc. Some of these are not so easy to provide online and some (such as humour and irrelevance) may seem to usurp task time online. Legitimating such interchanges may be an important role for the tutor once cost issues have been tackled. The development of icebreaking exercises, commonly used in social work education to start up collaborative learning, would also be a very useful contribution to collaborative learning and working online.

Developing Collaboration: Face-to-Face and Online

There is still much to be learned about the processes and dynamics of collaboration whether online or face-to-face. The visibility of collaborative relationships developing in online learning may yield significant insight into this process and indicate training needs for collaborators across all media of communication. There is a possibility that the experience of a slow establishment of collaborative relationships in *Community Portraits* is an indication that online relationship building may reflect its face-to-face counterpart but in slow motion. Our previous experiences in face-to-face exercises simulating collaborative working have persistently resulted in evidence that collaborative relationships take time to develop and that the process benefits from being steered. Provision for this time would need to be built into any collaborative learning programme according to the time factors associated with the

medium of communication. Development of strategies for steering the process will be dependent on increased understanding of the minutiae of collaborative relationships distinguishing what helps and what hinders.

6. Conclusion

There were generally positive outcomes to the *Community Portraits* course. The students' attitude towards technology was in general positive, as they were able to use TELSIpro very quickly even though they had some problems with the structure. Students asked for and received prompt support by the system administrator, and most of the students were very satisfied with the general level of support they received.

The combination of the on- and offline activities of collecting information and data in their communities, producing documents and photographs for uploading into TELSIpro was difficult for the students since they did not comprehend, especially in the beginning, how information was structured in TELSIpro. Once the initial learning period was over they managed to cope with the system. It is clear that when introducing new computer-based systems, especially where the learner is unable to receive direct physical support, that a short training period be arranged so that these learning experiences do not interfere with the course. No matter how deceptively easy technology may appear to be there will always be those students who will need the opportunity to practice without it interfering with their studies.

The social-constructivist learning approach adopted by the project caused the learners some discomfort in the beginning as they were expected to learn in a self-directed way. They had to choose the kind of material they would collect on their own, and then decide on the form they would present it in. This deliberate approach by the course developers forced the students to develop a collaborative style in order to progress the learning activities. An important issue for the groups was to define rules for their working and to develop a structure on how to share the work and how to support each other. This Piagetian method at first made the students feel uncomfortable and instigated a rush of requests to the tutor for support. Over the period of the course this demand receded as they developed learning relationships in their groups. The tutor selected the members of the groups and they had no recourse of leaving the group and joining another one. Students reported that they needed more motivation from the tutor at the beginning since using the technology and learning self-directed without close contact with fellow students was very demanding until the relationships had developed.

It was not easy to answer the research questions posed in D6.2 about Virtual Communities, since each of the learning groups consisted of just three members. The course was over a period of 14 weeks, which was not long enough to make anything other than cursory observations. However, information collected during the evaluation period of the course show some indicators for the characteristics of a virtual community. Through examining the students' emails and Chat sessions we found examples of informal communication e.g. about participants' jobs and hobbies, Easter greetings or questions about films etc. These are textual examples of what would transpire in face-to-face discourse between students and would be discourse artifacts of social bonding.

It is difficult to say whether the learning groups turned into a community. Some of the students felt like a little community, others did not. Some stated that they made friends others did not. Some want to stay in contact the others do not. The impression is that the members of one of the groups became more familiar with each other than did the members of the other groups. They describe their collaboration as having fun and enjoying it—and

that may be a sign for the transformation into a kind of community. Within the groups there were no severe conflicts (especially not concerning cultural differences) but there were some misunderstandings. One group tried at the very beginning to establish some rules: ground rules containing honesty and respect for each others views, background and cultures, rules about their work like regular Chat schedules, timetables, structures for sharing the work and supporting each other. This group did very well in working on the *Community Portraits* from the outset.

Communication via a computer is different and more time consuming than face-to-face. The students thought much more about what they wanted to write than they did in verbal conversation. Some of them think that it is very good to be forced to think about choosing words in advance. Most students stated that working in groups had a positive impact on their learning results. Working in groups was not easy but some students said that they learned a lot. Not only in respect to the subject of the course but also in using the technology and especially finding, using and practising new forms and ways of communication—this was a very important experience for them.

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Appendix A: Presentation of the Data

Portraits of students including statistics on TELSIpro usage

Student 1 is male (57) and from Scotland. He worked as a social work manager for many years and is presently Conciliator for the National Health Service Complaints System. He has experience of social work management especially in communities; he also had basic knowledge computers before taking *Community Portraits* and expressed interest in browsing on the Internet.

His first session on TELSI was on the 19th of February 1999 at 12:46:10 (time). His sessions for the course were 143, which totalled up to TELSI time of 50:12:59. He created 6 documents that occupied 435kb. He sent 90 and read 254 messages.

Student 2 is female (47). She is German and studying political science and sociology. Her special interests lie in community sociology and gender studies. She pocessed basic computing knowledge before the unit.

Her first session on TELSI was on 1st of March 1999 at 13:21:09 (time). Her sessions for the course totalled 54, including supervision from the SCHEMA staff in Germany. The total TELSI time was 31:09:28. She created 16 documents that used 4127kb. She sent 26 emails and read 367.

Student 3 is female (32). She is Finnish and a researcher at the University of Lapland. Her special interests lie in action research work directed at improving the quality of life for aged people in sparsely populated areas. She has research experience in a number of different communities in marginal areas. She had little prior computing knowledge.

Her first session on TELSI was on the 24th of February 1999 at 15:48:22 (time). Her sessions totalled 83, a total TELSI time of 07:18:52. She created 10 documents that used 1003kb. She sent 27 emails and read 213.

Student 4 is male (32). He is from Germany and a sociologist in a research institute. His special interests lie in using instruments of communication technology like Groupware, HTML, MS-Office, multimedia and tele co-operation for collaborative work.

His first session on TELSI was on the 3rd of March 1999 at 11:05:37 (time). His accessed TELSI a total of 32 times for a period of 53:11:32. He created 2 documents occupying 25kb. He sent 7 emails and read 71.

Student 5 is male (47). He is from Scotland and is a lecturer in nursing on the Inverness campus of the University of Stirling.

His first session on TELSI was on 19th February 1999 at 12:29:44. His total TELSI time of 00:00:21 was over 8 sessions. He created no documents. He sent 1 email and read 31.

Student 6 is female (33). She is from Finland and a researcher in social sciences and philosophy. Her special interests lie in research and experiments about social workers and social work students. She has experience in district analysis of social workers.

Her first session on TELSI was on the 25th of February 1999 at 10:44:23 (time). She accessed TELSI 69 times for a period of 02:10:59. She created 2 documents using 46kb of disk space. She sent 7 emails and read 17.

Student 7 is male (48). He is from Scotland and is a team manager of a special social work team. His interests lie in community development and computer expertise. He has experience with community work, social work and community activities.

His first session on TELSI was on the 2nd of March 1999. TELSI sessions 48 and a total time of 19:03:22. He created 5 documents (94kb). He sent 47 emails and read 148.

Student 8 is female. She is from Finland and is a researcher in sociology and social policy at the University of Jyvaskysla.

Her first session on TELSI was on the 24th of February 1999. Number of sessions 123, time 15:37:47. She created 8 document (169kb). She sent 77 emails and read 229.

Student 9 is female (38). She is from Finland and is a student of community studies and social work. Her interests lie in statistical analysis, different cultures, art and theatre.

Her first session on TELSI was on 19th April 1999. Number of sessions 56, time 20:12:08. She created 26 documents (1710 kb). She sent 61 emails and read 396.

The groups were 1-3, 4-6, and 7-9.

Appendix B: Pre-Questionnaire

The Pre-questionnaire contained 44 questions, divided into four sections:

- Technology: software and programme: questions about students' usage of the computer (how long, which programmes, etc), usage of the Internet (for how long, what for, etc), confidence in using a computer and attitudes towards technology and the usage of computers.
- Learning: course and content: questions about students' experiences with training courses and electronic courseware, their expectations of the *Community Portraits* module and their confidence about the English language.
- Culture: Virtual Communities: questions about students' attitudes and expectation concerning communication and collaboration with students from other countries via the computer.
- Demography: questions concerning gender, age, qualification and work status.

Technology: software and programme

1. How long have you been using a computer?

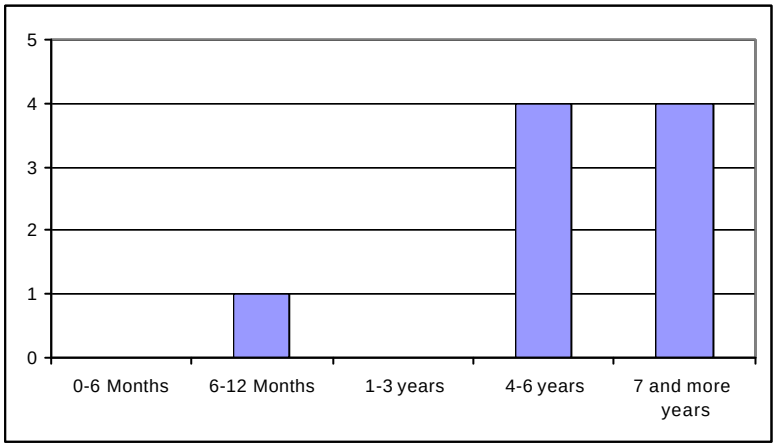

Figure 15: Usage of Computer

2. How did you learn primarily to use a computer?

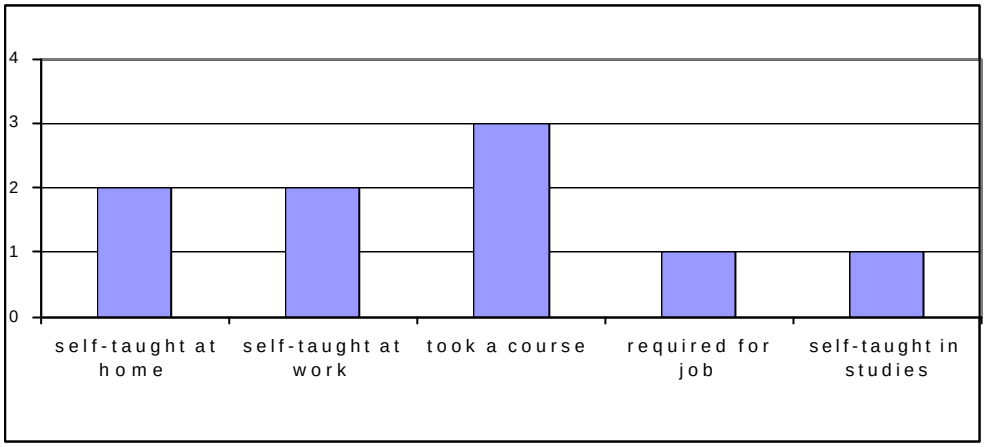

Figure 16: Learning how to use a computer

3. What are the computing platforms you use? (You can state more than one answer)

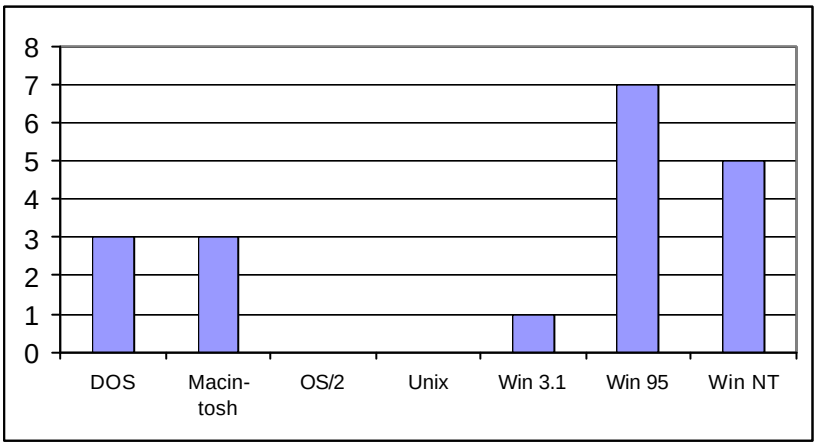

Figure 17: Computing platform.

4. What types of software programmes do you use?

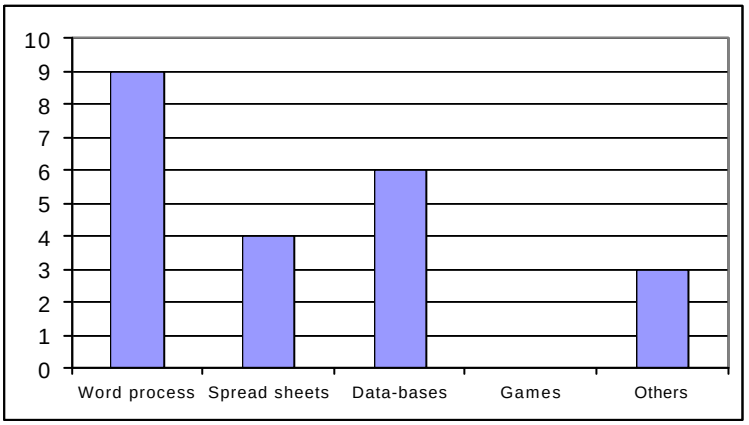

Figure 18: Software used

Others are mainly graphic programmes, SPSS (statistical programme) and Internet browsers.

5. Apart from participating in this course, do you use the Internet?

All of the students are making use of the Internet.

6. Where do you access the Internet from? (You can state more than one answer)

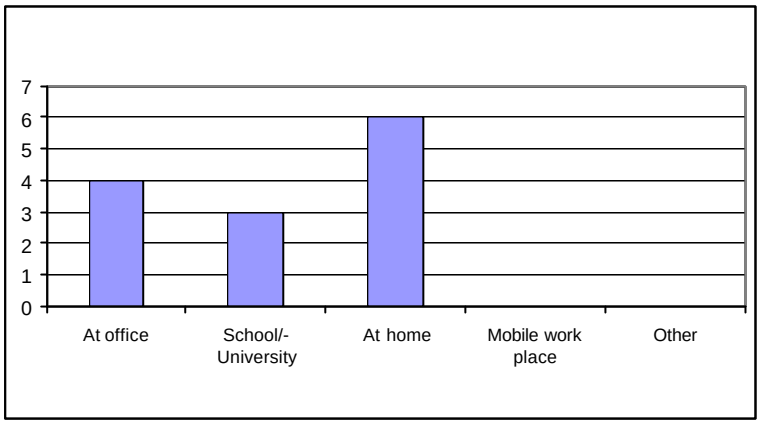

Figure 19: Access to the Internet

6. What do you use the Internet for? (You can state more than one answer)

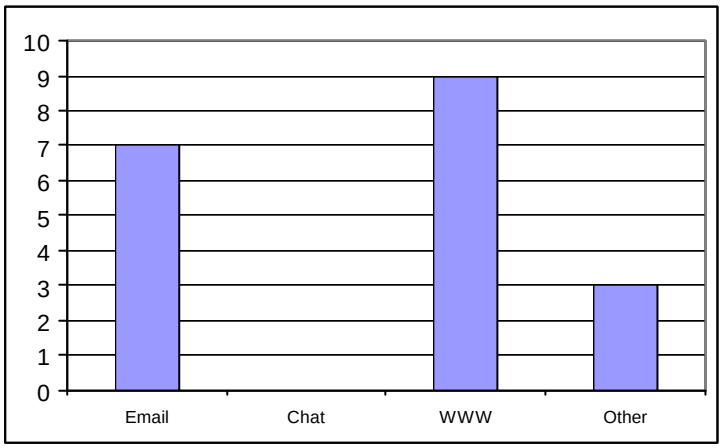

Figure 20: Purpose of Internet usage

Others are: shopping & paying bills, teaching and learning.

7. How often do you use the Internet?

Six students are using the Internet every day (five of them have access to the Internet from home). Two are using the Internet several times a week and one several times a month.

8 - 15. Please indicate by ticking the relevant box, how confident you feel about using . (options: very confident, confident, some confidence, little confidence, no confidence)

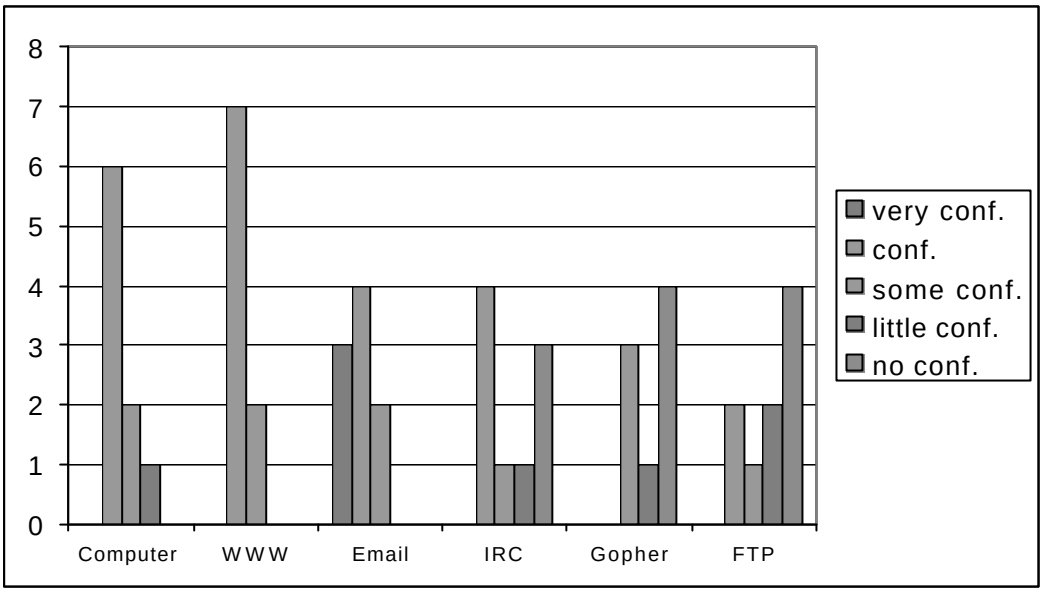

Figure 21: Confidence using computers and applications

16 – 22 Below are some statements about computers. To what extent do you agree with them?

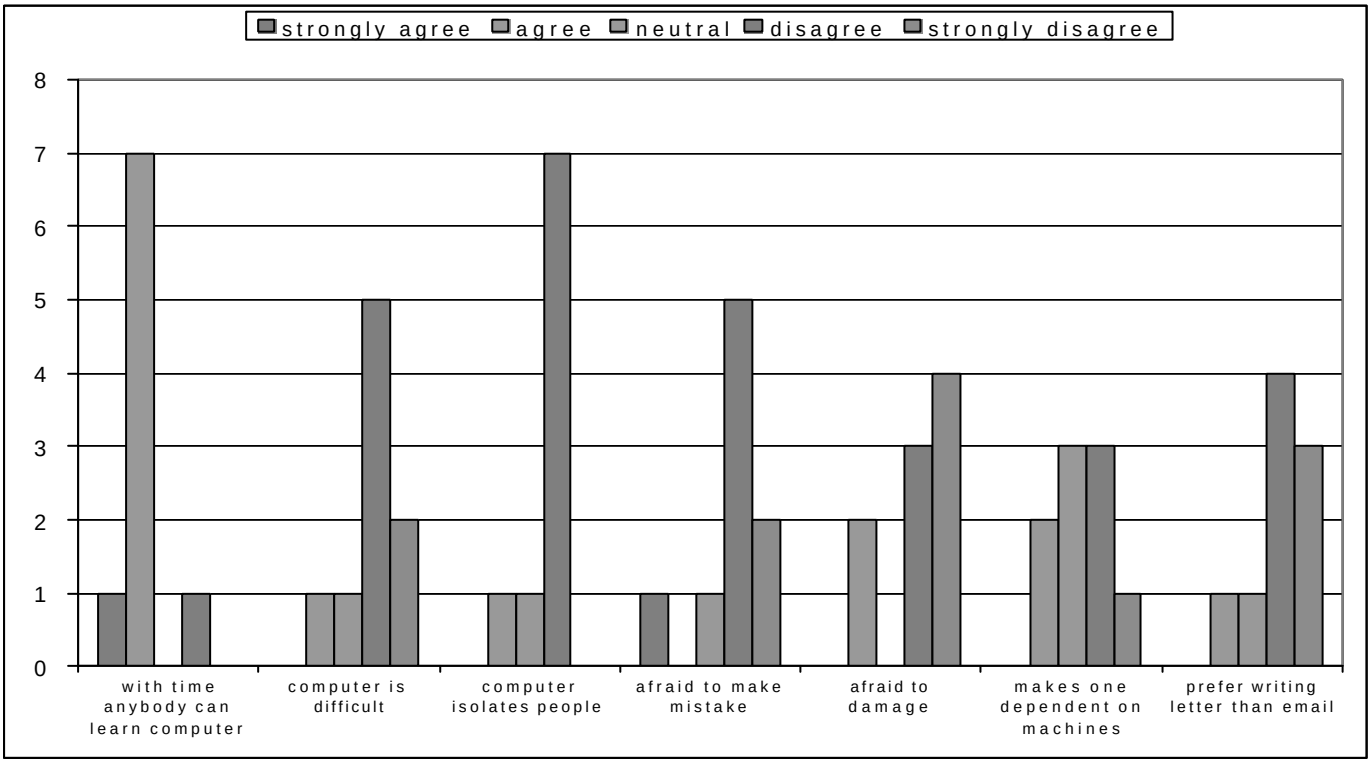

Figure 22: Notions about computer

Given a little time and training anybody could learn to use a computer.
Most students agreed that anybody can learn how to use a computer. Just one student did not agree—it is this student who has little confidence with computers.

A computer is difficult/complicated to use.
The students disagreed that using a computer is difficult or complicated. The student that agreed is the same one as noted above.

Computers isolate you from other people.
None of the students believed that computers isolate individuals from others. The only student that agreed is the one with little confidence.

I am afraid of looking silly if I make a mistake while using a computer.
Most of the students were not afraid of looking silly if they make a mistake using a computer apart from the student noted already with little confidence.

I am afraid of damaging something if I'm using a computer.
The only student that believed they may damage the computer is the one with little confidence.

The computer makes people dependent on machines.
A broader split on this statement but only two agreed that computers make people dependent on them.

I prefer writing a letter rather than writing an Email.
Only a single student prefered writing letters.

Summary: The students were confident with the use of computers. Only one expressed any real anxieties.

Learning: course and content

23. Have you ever participated in a professional training course?

Most of the students have already participated in professional training courses. They have taken part in many different kinds of courses involving traditional forms of learning in Social Work, Community Work, and Seminars at the post office.

Experiences with these courses has been positive: *"I did enjoy, it was a vocational training", "My experiences were positive and good", "Good, but motivation-problems in periods of little time", "They were useful", "All positive", "Mixed. Placements were enlightening. Some course bits were dull"*.

24. Have you ever had any experience with electronic courseware?
Only two students had any experience of electronic courseware as they had taken part in an Internet-based further education course and an introduction to Adult Education.

25. What are you expecting from the community portraits course?

"Real and practical uses for the common good."

"…a good and harmonious international teamwork among the participants."

"Knowledge, contact to new friends, other cultures."

"Experiences in co-operation."

"Don't really know, as I seem to have become a student when that was never intended."

"I'm waiting that course with interest. At the moment I don't have so much information about the course."

"A new experience in learning and cooperation."

"To find out if it works online."

"I'm more interested in the subject and in discussing with different people, sharing experiences with them, than in the method of the course."

These are the expectations students had for *Community Portraits*. Some of them are interested in the subject, but most were looking forward to contacting and working with students from other countries. Some students did not state any clear expectations.

26 – 30 Language
Please indicate by ticking the relevant box, how confident you feel about the English language.

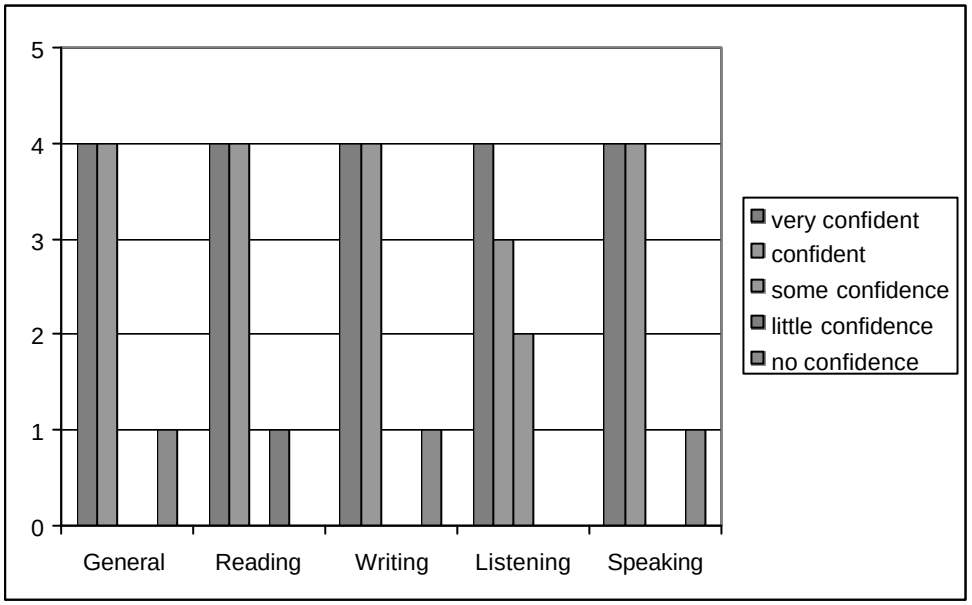

Figure 23: Confidence with English

In general
Most of the students are very confident with English. Just one student indicated no confidence.

Reading
Confidence with reading was very high. The one with low general confidence has little confidence with reading.

Writing
Confidence with writing is high. A single student does not feel confident at all.

Listening/understanding
All students state at least some confidence in listening and understanding.

Speaking
Speaking was not a problem for most of the students. The single student who indicated problems with English indicates difficulties with speaking.

Culture: Virtual Communities

31 – 40. In this course you will co-operate with people from different countries. What do you think about this co-operation? (options: strongly agree, agree, neutral, disagree, strongly disagree)

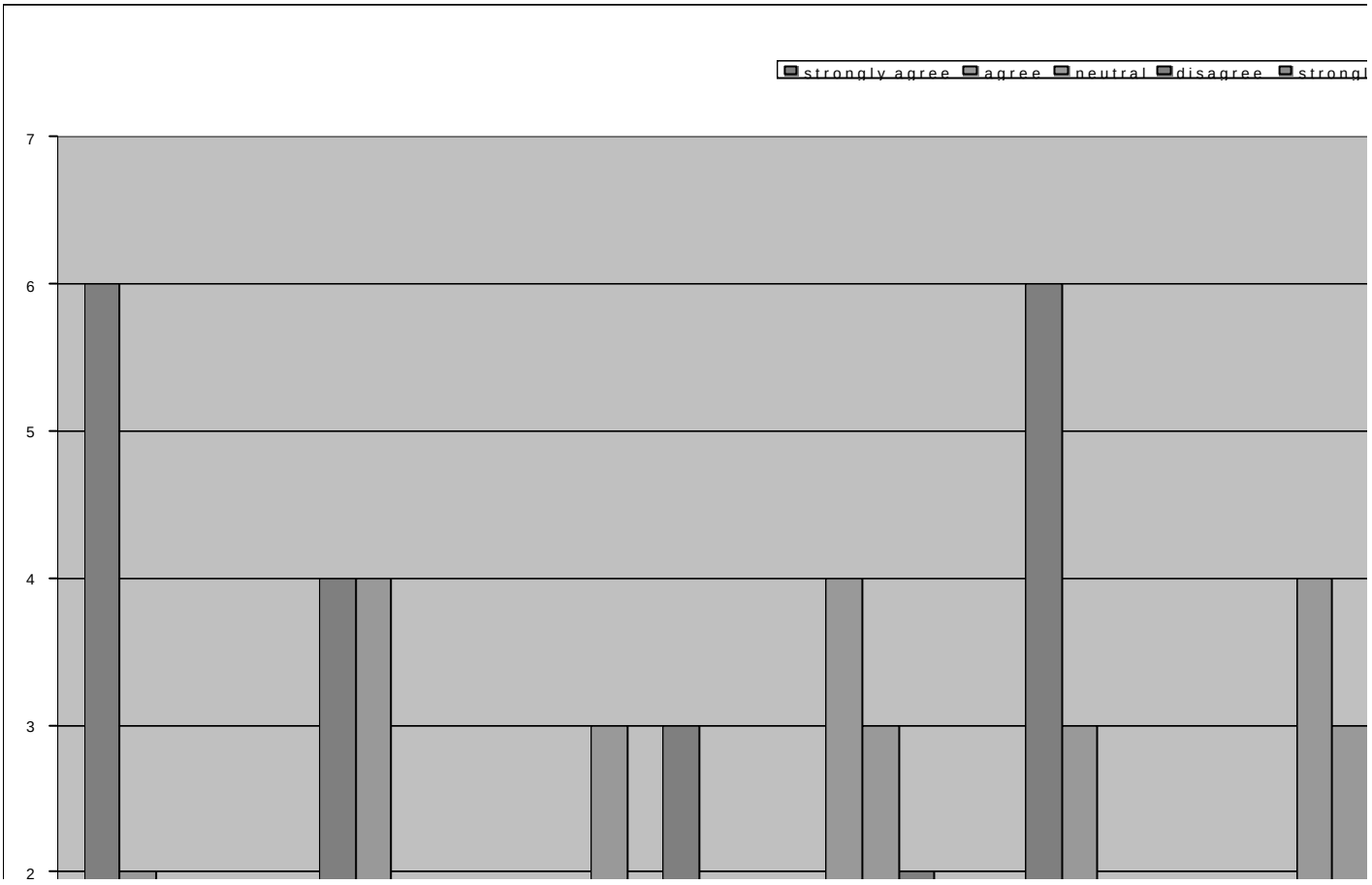

Figure 24: Collaboration with students in other countries

I am looking forward to having contact with people from other countries.
Most of the students were looking forward to having contact with people from other countries.

I am looking forward to exchanging experiences.
All students who answered the question agreed that they are looking forward to exchanging experiences.

I think communication via the computer will be difficult.
Roughly half of the students expected little difficulty with communication via computers. These are the same students who did not expect difficulties with Inter Relay Chat (question13).

I would prefer meeting the others in "real life".
None disagreed with this statement. Most agreed with the statement or were neutral. Only two students thought that meeting via the computer is better or equal to meeting face-to-face.

Computer mediated communication gives me the possibility to get in contact with people I would never be able to meet in "real life".
All of the students agree that CMC provides opportunities to contact people one would never meet in "real life".

I think informal communication (about private issues) will be at least as important as the communication about the course.
Four believed that informal communication is important, three are neutral and two did not attach any great importance to informal communication.

I am afraid of language problems disturbing the communication.
Two strongly agreed indicating that they saw language problems ahead.

I think computer mediated communication provides a new way to make friends.
Most saw CMC as good opportunity to make new friends.

I think co-operation with others will have a positive impact on my learning results.
Most believed that cooperation would have a positive impact on their own learning results.

I will learn a lot about other countries and other cultures through the communication with the other participants in the course.
All but one of the students expected to learn about their fellow students cultures.

Summary: students were looking forward to meeting people from different countries in order to exchange experiences, make contacts and friends. Most of them believed that collaboration would have a positive impact on their learning outcomes. Some of the students were afraid of communication difficulties (especially those students inexperienced in the medium) and language problems.

Demography

41. Gender

There were four males and five females taking the course.

42. Age

Full details of the student ages are given in the profiles in Appendix A.

43. What qualification do you have?

"BSc. very ancient "
"Nurse, Civil Servant, Student"
"3 professional trades, now student in university"
"Sociology-study"
"Bachelor's degree plus a number of professional qualifications"
"My education: Master on Social Sciences"
"Diplomas in Community Work & Social Work Professional Associateship of Chartered Insurance Institute Qualified Chef"
"Teaching (secondary school) / Social work"
"Masters & licenciate degrees in social work"

44. What is your work status?

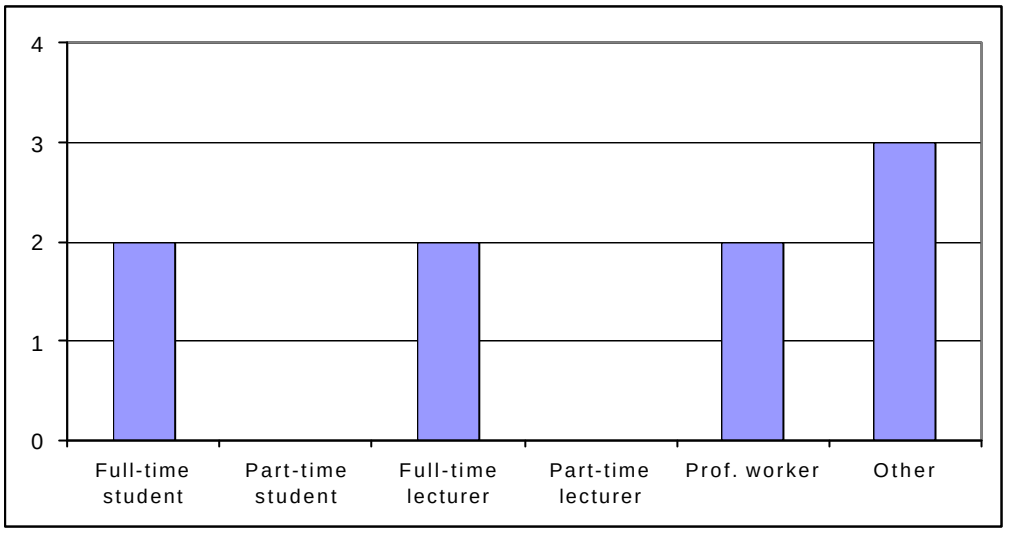

Figure 25: Work status of students

Others were part-time working and a researcher (also student).

Appendix C: Post-Questionnaire

The post-questionnaire contained 60 questions, again divided into the four different sections:

- Technology: TELSIpro: questions about using TELSIpro, about usability and support of the TELSIpro environment and about problems with TELSIpro.
- Learning: course, content and collaboration: questions about the content and the structure of the course, about teaching and learning, about the presentation of the content and about collaborative learning.
- Culture: Virtual Communties: questions about co-operation within the learning groups, with students coming from different countries.
- Demography: questions concerning gender, age, qualification and work status.

The post-questionnaire was answered by only five of the students. One group ended their participation during the course so they did not answer the post questionnaire. One person who stayed until the end also did not fill in the questionnaire.

1 -9 Using TELSIpro

To what extent do you agree with the statements below about the general usability and the support of TELSIpro environment? (options: strongly agree, agree, neutral, disagree, strongly disagree)

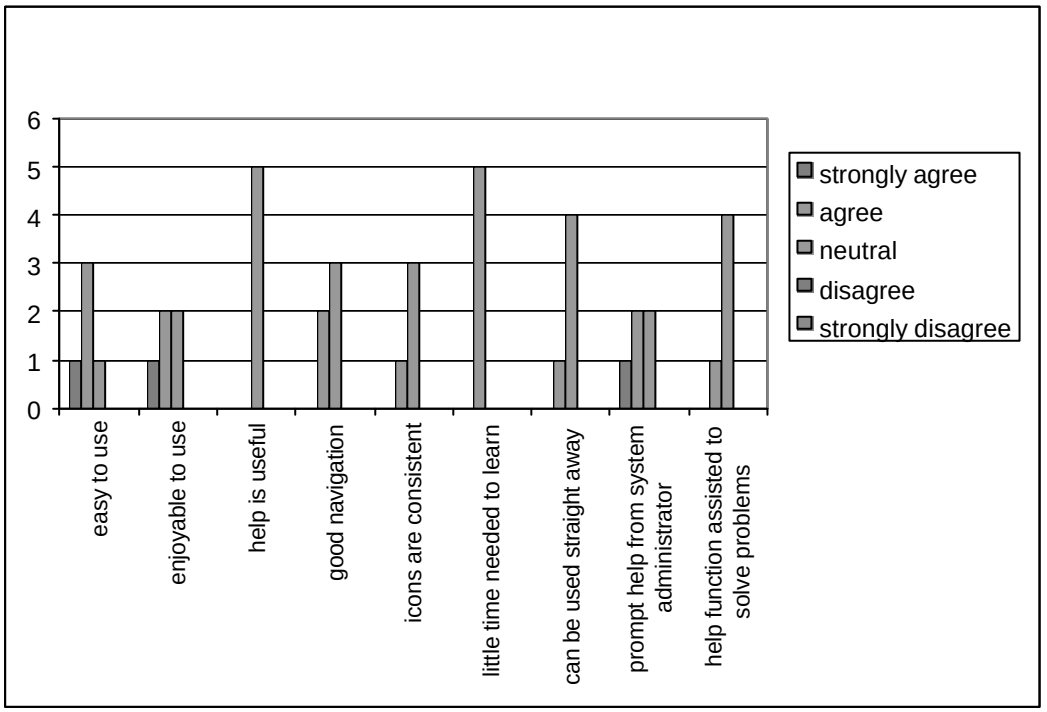

Figure 26: Usage of TELSIpro

TELSIpro is easy to use.
The students found TELSIpro easy-to-use. Even one student who stated little confidence with computers in the pre-questionnaire found TELSIpro easy-to-use.

TELSI pro is enjoyable to use.
Three students found TELSIpro enjoyable; the remaining two students were neutral.

The TELSIpro help is useful.
All were neutral about help.

Navigation in TELSIpro is well structured and easy to use.
Students were neutral about navigation in TELISpro.

The icons and links for navigation are consistent.
The students were broadly neutral which is, perhaps, surprising as icons were not used consistently in TELSIpro.

Little time is needed to learn TELSIpro.
The students agreed that little time was needed to learn TELSIpro.

TELSI pro can be used straight away.
Using TELSIpro was not difficult but using it straight away was not seen as possible.

I received prompt help and guidance from the system administrator when I got lost.
The system administrator was perceived as dealing promptly with any queries from students (not all students had problems)

The help functions of TELSIpro helped me solve my problems.
A neutral position was held here. Help system are difficult get right and the neutral probably indicates that TELSIpro's is not perfect!

10. How confident do you feel with the use of TELSIpro now?
The students felt reasonably confident using TELSIpro.

11 - 12. On-line learning

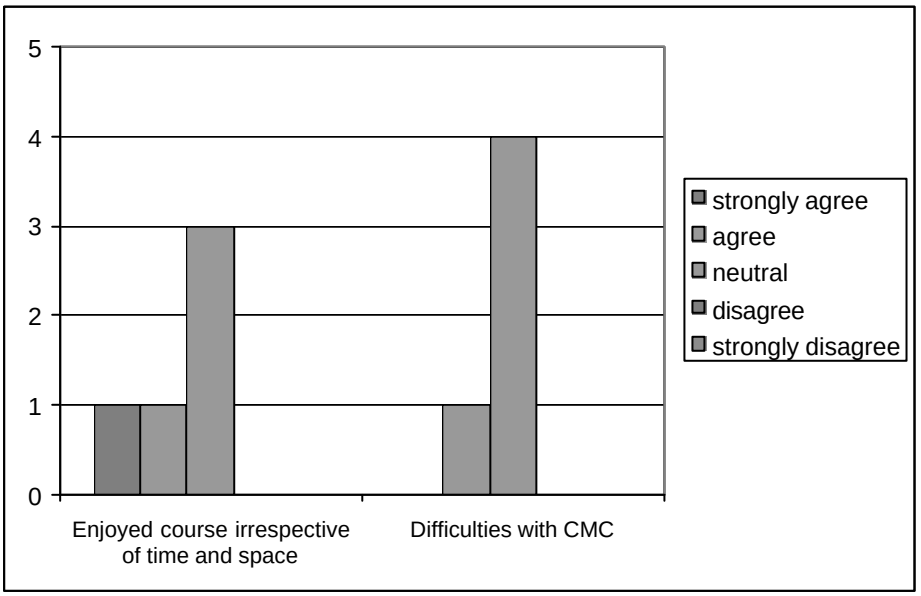

Figure 27: Online Learning

I enjoyed the opportunity to take the course irrespective of time and space.
Traditionally students appreciate the freedom that distance / open learning gives them and this group would appear to be no different.

Communication via the computer was very difficult for me.
Most students had no particular difficulties will CMC.

Problems encountered with special functions on TELSIpro

Below some possible difficulties with TELSIpro are listed. Please tick if you encountered any of these difficulties. Please also try to describe them.

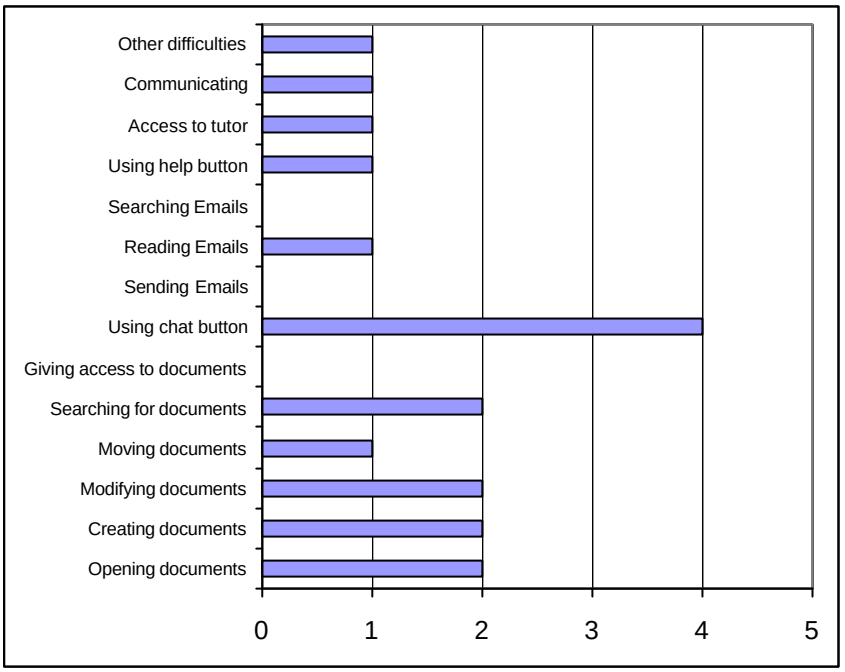

Figure 28: Problems with TELSIpro

Opening documents
Two students encountered problems with opening documents. These were caused by incorrect permissions.

Creating documents
Two students stated problems creating document. One was due to the student using a browser that did not support uploading.

Modifying documents
Modifying documents was difficult for two students. Too little guidance was given by SCHEMA on how to do this.

Moving from one document to another
Only one student had problems moving from one document to another. We suspect this to be a performance issue with the students' machine.

Searching for and finding documents
Two persons stated problems with searching for documents. This was because TELSIpro lists documents in alphabetical order.

Giving other students access to documents
None of the students reported problems in this area.

Using the Chat button
Four of five students reported problems with Chat. This function caused many problems in the *Community Portraits* course and is dealt with in section 2.

Sending emails
None of the students had problems with email.

Reading emails
One of the students had problems reading emails but these problems were not due to TELSIpro but to *"problems with English"* .

Searching and finding emails
No problems.

Using the help button
No problems.

Getting access to the tutor
None of the students stated problems with getting access to the tutor.

Communicating with other students
One student had problems with communication due to the missing Chat button.

Other difficulties
One student reported difficulties with logging in.

Summary: The questions about TELSI demonstrate that it is easy-to-use and needs little time to learn.

Problems encountered in the course were difficulties with the navigation, structure, management of documents, and icons but these were minor irritants not showstoppers. The Chat button and its not appearance were the major problem. Communication facilities (CMC / Mail) did not produce any problems.

At the end of the course, most of the students felt confident with TELSIpro and appreciated the open nature of online learning (i.e. they could work when it suited them).

Learning: course, content and collaboration

13 - 19 Course content

Below you will find some statements concerning the structure of the course. Please tick to what extent you agree with the statements. (options: strongly agree, agree, neutral, disagree, strongly disagree)

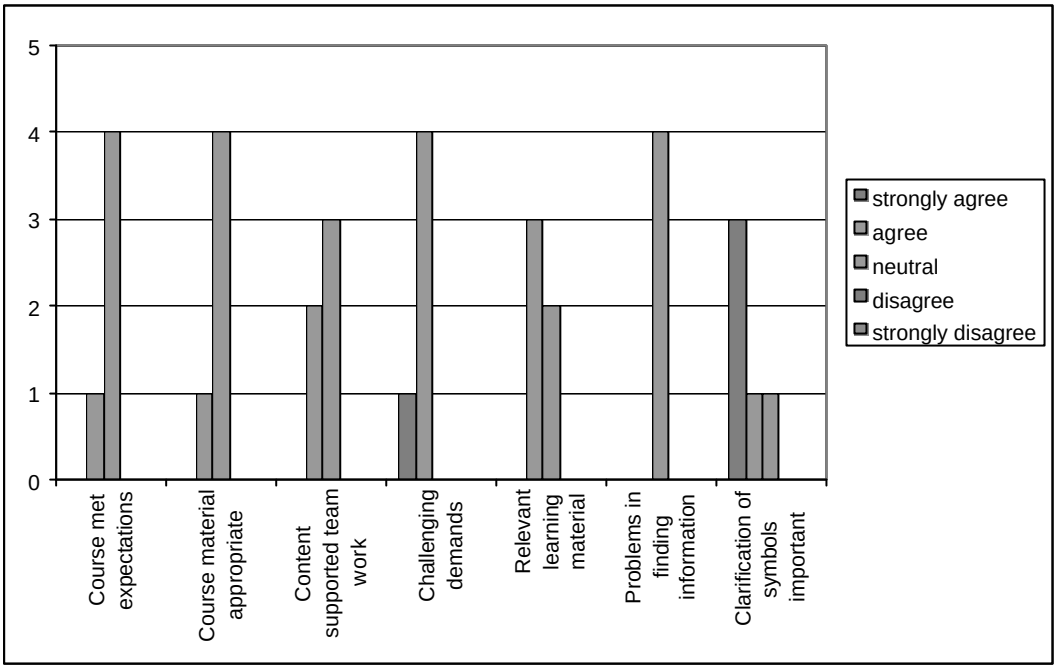

Figure 29: Course content

The course met the expectations of the content I had at the beginning.
The response to this question indicates that in future runs we must make clearer the motivation for *Community Portraits* so that students entering the course have a reasonable set of expectations.

The course material was appropriate for the aims and objectives of the course.
Most are neutral reinforcing the point above.

The course content supported team work.
The course was designed to encourage team work and we are a little surprised by this result. Possibility this relates to the points raised earlier about the instructions given not being sufficiently clear.

I found that the demands of the course were challenging.
All students found the demands challenging.

The selection of learning materials were relevant for the topics in the course.
Three students believed the selection of learning materials were relevant for the course. The remainder have no firm opinion.

I experienced problems in finding relevant information (e.g. courses updates).
Four students answered this question and all were neutral.

It is important to clarify course specific jargon and symbols to students as an introductory part of the course.
We must take care to explain the use of symbols in the course content. We used

various symbols to indicate the type of information being given but this would appear to have confused rather than clarified.

Summary: overall, the students thought that the course was both demanding and challenging. Clarification of jargon and symbols is also necessary.

Teaching and Learning

20 – 25 Below you find some statements about teaching and learning in the course. To what extent do you agree with them?

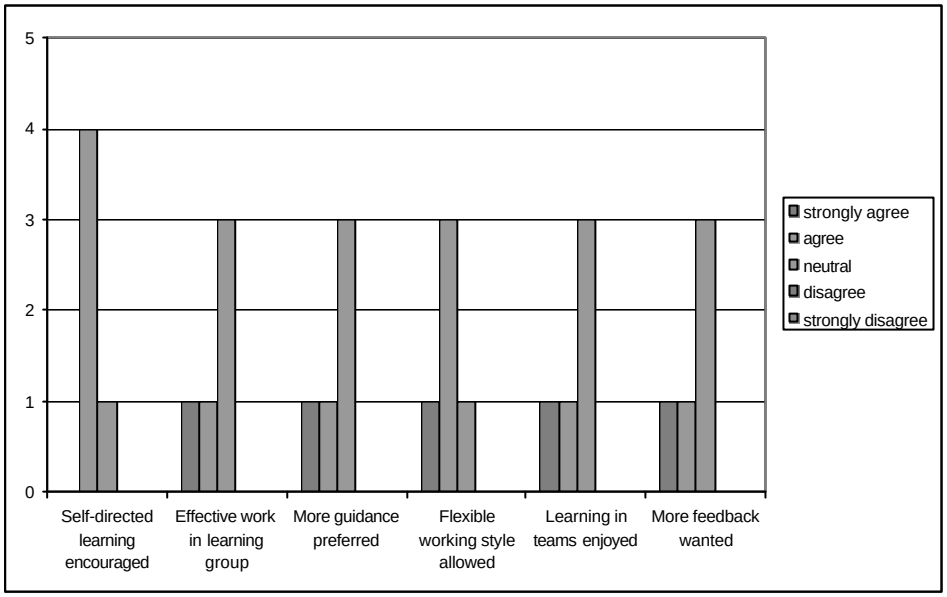

Figure 30: Teaching and Learning

The course encouraged the use to learn in a self-directed fashion.
Self-directed learning was clearly achieved.

I think the working in a learning group was very effective.
Two students thought that working in learning groups was effective—the remainder were neutral.

I prefer having more guidance and support from tutor during my learning.
Two students would like more guidance and support from the tutor, three felt neutral.

The coursework allowed a very flexible working style.
Students agreed that the coursework allowed a very flexible working style. Only a single student was neutral.

I enjoyed learning in a team more than learning on my own.
Two students enjoyed learning in teams. The reminder were neutral.

I would like to have more feedback from the tutor in order to be able to control my own learning process.
Feedback from the tutors appears to have been judged at about the right level.

Summary: in this section many students many responses were neutral. Where preference was expressed it supported the goals we had when setting up the course: that working in teams would improve the learning outcomes, that learning would be

self-directed and that students would appreciate the flexible approach that online learning brings.

Presentation of course content

26 – 35 Here are some statements concerning the content of the course.

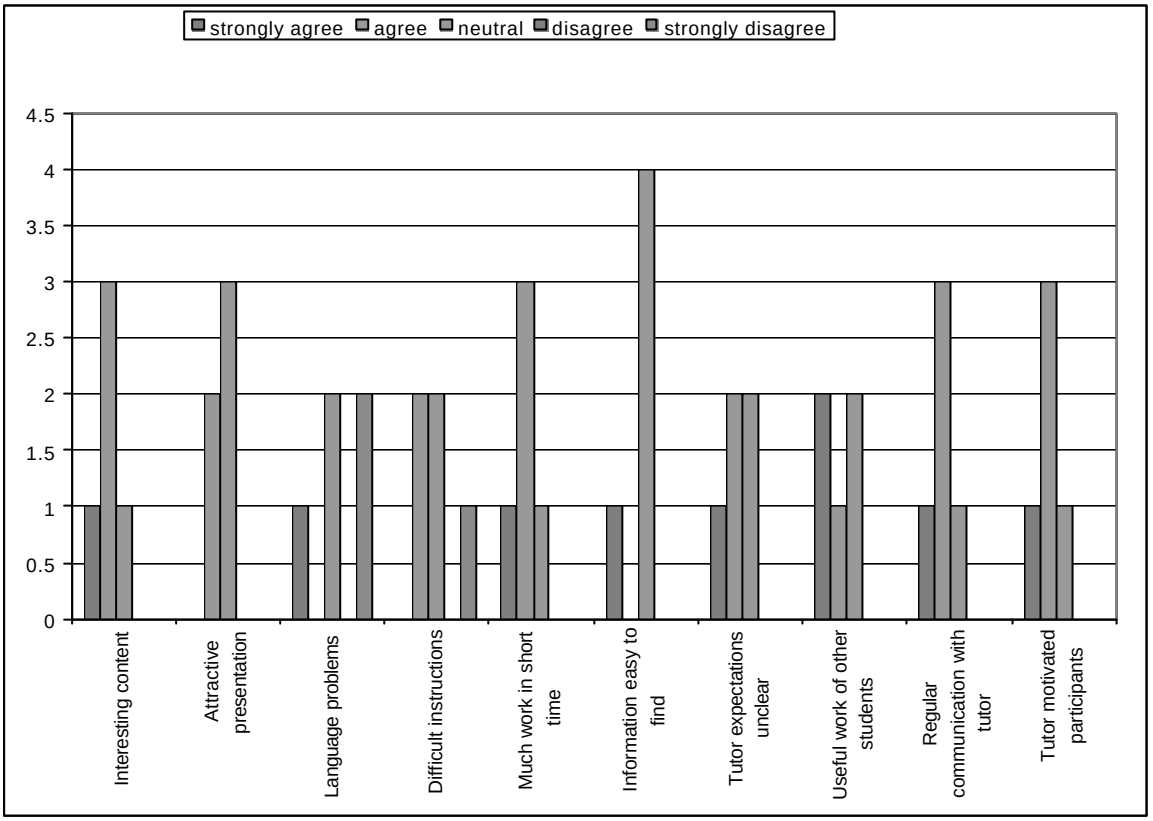

Figure 31: Presentation of the course

The content of the course was very interesting.
Clearly students found the course simulating.

The presentation of the content was very attractive.
This could be improved but the students were positive.

Because the course was in English I had some problems fulfilling the demands of the course.
The two students who strongly disagreed with this statement are assumed to be native speakers! The student who had severe problems with the language is the one who had little confidence with English.

Sometimes I had difficulties comprehending the instructions of the tutor.
Some of the students did have difficulties understanding instructions from the tutor.

There was too much coursework to be done within a short period of time.
In future runs of the module the amount of coursework may need to be cut down.

I was always able to find all the information and instructions I needed to do my work.
The neutral response to this question was caused by the already noted problems with navigation. The students did find the instructions but probably not as quickly as they should have.

Sometimes I did not know what the tutor expected me to do.
This simply confirms the views expressed with the tutor's instructions.

I found other students' content and presentation about their community portraits useful to me.
Agreement.

The tutor communicated regularly with course participants.
Whilst there may have difficulties with certain communications the students did feel regular communication was achieved.

The tutor tried to motivate individual participants.
The students felt that the tutor motivated some participants successfully in this online environment.

Summary: overall the presentation appears about right. The amount of work expected was clearly too large and their were some communications problems between some students and the tutor.

Collaborative learning

36 – 44 Please describe the work in your groups during the course.

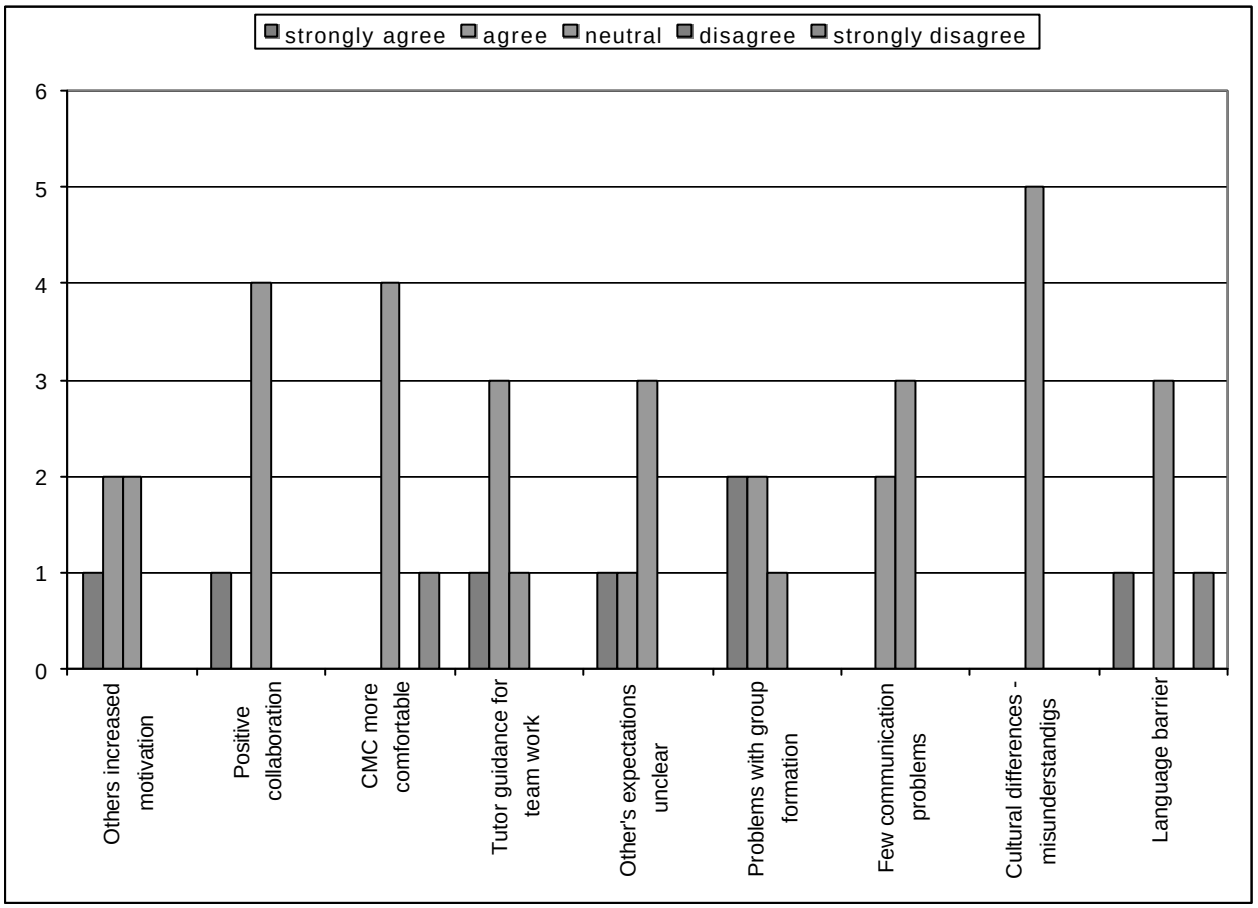

Figure 32: Collaborative Learning

The fact that the portraits would be seen by others on the web increased my motivation to participate.
Three students agreed with the statement. Two students felt neutral about the statement but none of them disagreed.

The collaborative work within my group was very positive.
Most of the students neither agreed nor disagreed but felt neutral. Just one strongly agreed that the collaborative work within their group was very positive.

I felt more comfortable collaborating through a computer-mediated learning environment than in a traditional learning environment.
Again most students felt neutral. They did not feel more or less comfortable collaborating through a computer-mediated learning environment than in a traditional learning environment. One of the students strongly disagreed: they did not feel comfortable with collaborating in a computer-mediated learning environment (but this student did not state problems with CMC in question No.12).

The tutor gave us all necessary guidance and supervision to facilitate collaborative learning and how to realise our team work.
Almost all of the students agreed that the tutor gave them all necessary guidance and supervision to facilitate collaborative learning and how to realise their team work. Just one student felt neutral about that, none of them disagreed.

I had problems with the collaborative work as I was unsure of what the others expected from me.
Just two students agreed that they felt unsure of what others expected from them. Most of the students felt neutral but none disagreed.

Particularly at the start we had great problems with the formation of the group.
Almost all of the students stated problems with the formation of the group at the start. Just one student felt neutral but none of them disagreed. None of them was able to say that there were no problems with group formation.

During the course there were few problems with communication in the learning group.
None of the students stated severe problems or no problems with communication in the learning group. Three were neutral and two agreed that there were few problems.

Cultural differences led to misunderstandings within our learning group.
All of the students felt neutral about this statement.

Communication with the others was sometimes difficult due to the use of English as language of communication.
Only one student strongly disagreed and thought that there were no difficulties with communication due to language. Three of the students felt neutral. One participant states severe problems with communication due to the language (this is the student who stated no confidence with the English language in the pre-questionnaire).

Summary: with respect to collaboration most students reported some problems, especially at the beginning of the course. All in all, attitudes towards the collaborative work within the groups was not negative, but due to language problems and communication through computers it was not easy for the participants. But almost all of the students stated that they had support from the tutor to facilitate collaborative learning.

Virtual Communities

45 – 56 In the course you co-operated with other students coming from different countries. What do you think about this co-operation? (options: strongly agree, agree, neutral, disagree, strongly disagree)

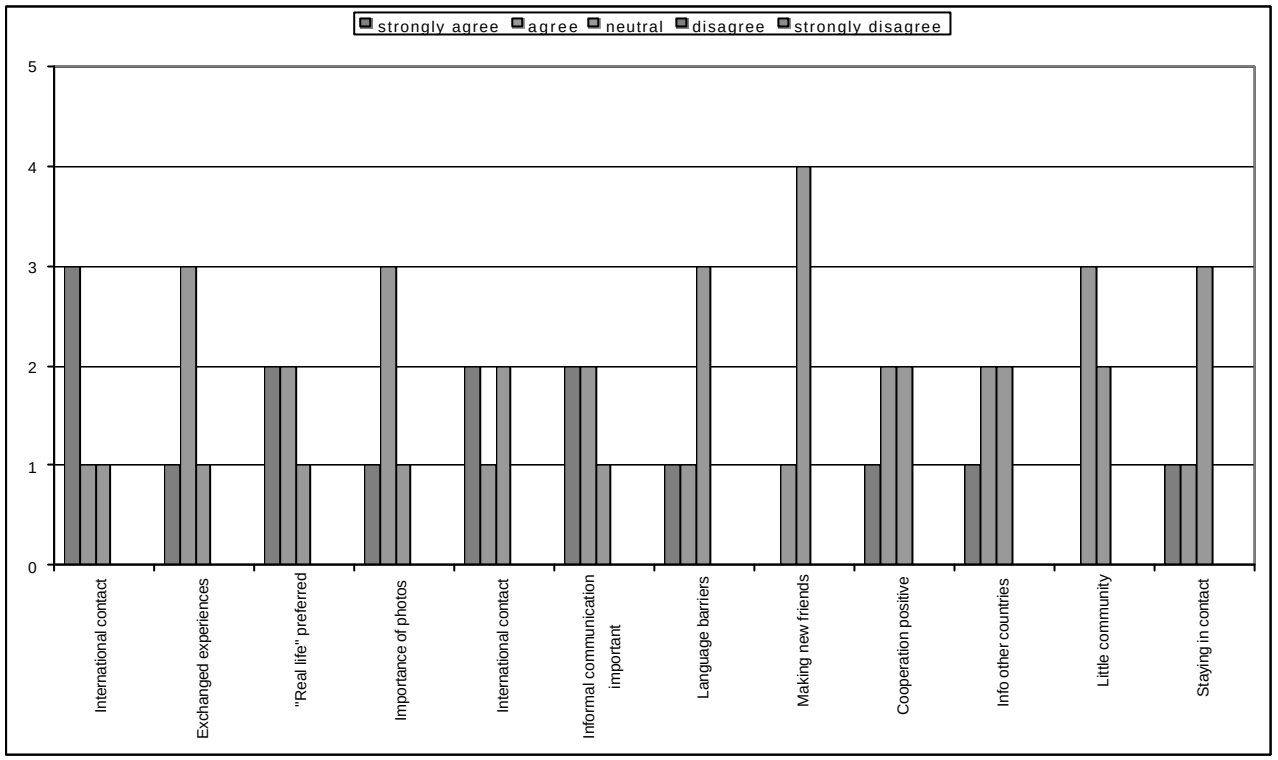

Figure 33: Virtual communities

I enjoyed having contact with other students from other countries.
Almost all of the students agreed that they enjoyed contact with other students from other countries. Just one student felt neutral, none of them disagreed.

I used this opportunity to exchange experiences.
All students but one (who felt neutral) used the opportunity to exchange experiences.

I would prefer meeting the others in "real life".
Most of the students would prefer meeting the others in "real life" just one felt neutral. None disagreed.

The pictures of the participants helped me to form an impression of them.
Most of the students thought that a photo of the other participants helped to form an impression of them. Just one of the students felt neutral about the photos.

This course gave me the possibility to get in contact with people I would never be able to meet in "real life".
Four students agreed that the course gave them the opportunity to contact people they would never be able to meet in "real life". Two students felt neutral.

I think informal communication (about private issues) was at least as important as the communication about the course.
Almost all of the students thought that informal communication was as important as the communication about the course. Just one felt neutral.

Problems with English sometimes disturbed the communication.
Two students agreed that English was a barrier for communication with other students. Three students felt neutral but none stated that there were no problems due to language. (Compared with the answers to question 44, where students were asked about communication problems due to the language but in the context of collaboration, students saw more problems with communicating in a community than ”just” in collaboration with others).

Through this course I was able to make new friends.
Most of the students felt neutral about the statement, just one made friends through the course. None disagreed with the statement.

I think the co-operation with other students had a positive impact on my learning results.
Three of the students strongly agree or agree that co-operation with other students had a positive impact on their learning results. Two students felt neutral; none of them disagreed (the co-operation did not have a negative impact on the learning result).

I learned a lot about other countries and other cultures through the communication with the other students.
Three of the students strongly agree or agree that they learned a lot about other countries and cultures through the communication with other students. Two students felt neutral; none of the students disagreed.

I felt that the participants of the course started to be like a little “community” on its own.
Three students agreed to the statement that they felt that the participants were like a little “community” on its own. Two students felt neutral but none disagreed.

I will stay in contact with other students of this course.
Two students are sure that they will stay in contact with the other students after the course has finished. None of the participants disagreed with the statement but three of them seemed to be unsure about having contact with the other participants.

(With some exceptions most of the students who felt neutral to one of the question felt neutral about the other questions as well).

Summary: students enjoyed the opportunity of meeting students from other countries and exchanging experiences. Most would have preferred a “real life meeting” and wanted to see pictures in order to form an impression of the others. Informal communication was an important part of the course. Those students who thought that informal communication was important also believed that they formed a “little community”, and they made friends during the course. Language was a barrier for most of the students and this hindered forming communities for non-native speakers.

Conclusion

Some of the questions were asked in both the pre- and post- questionnaire. These are questions about confidence in language and—in the post-questionnaire—about problems with the language, and questions about expectations and—in the post-questionnaire—about their experiences of online co-operation.

Comparing the answers of the first questionnaire with the second, it is obvious that little confidence with language skills were linked with language problems during the course.

Trying to link the answers concerning the expectations and experiences of online co-operation shows few obvious connections e.g., having agreed with the statement that communication via the computer would be difficult the students did not necessarily find that communication via the computer was difficult. Showing that certain negative expectations were not met.

Often students had different experiences than expectations. A single one question shows a link between expectations and experiences: those students who did not expect to make friend during that course did not make friends during the course (the ones who expected to make friends had indeed made friends during the course).