



Education Departments' Superhighways Initiative

Group B: Vocationally-Focused Projects

Final Report

**Computer Based Learning Unit School of Education
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Evaluation Methodology and Procedures

1. The evaluation procedures for the projects in Group B necessarily varied according to the context of individual projects, however the following general methodology was employed for all projects.
2. All educational institutions involved in the ten projects were visited by members of the evaluation team, though where a large number of institutions was involved (e.g. London Colleges Multimedia Initiative) a large representative sample was visited.
3. Data was obtained through the use of observation of teaching and learning, through semi-structured interviews with participants at all levels, and through the use of questionnaires using fixed and open-ended response items. Emphasis was placed on eliciting and representing the views of a range of those involved in each project, from learners to teachers and managers.
4. In addition, the evaluation teams analysed project documentation, students' work and minutes of management meetings and, where possible, a member of the team attended project management and steering group meetings.
5. Regular evaluation team meetings were held to ensure a commonality of approach and to inform and refine the methodology adopted and the evaluation foci as findings emerged.

2. THE STUDENTS ACROSS EUROPE PROJECT

Project context and description

- 2.1 This project is based at Monkseaton Community High School, Whitley Bay, and concerns the development of language teaching through the use of intermediate-band (ISDN2 lines) and narrowband (telephone) technology. The school is a mixed comprehensive 13-19 high school, with 850 pupils. It has established video-conferencing links with two secondary schools abroad: the Lycée Européen Montebello in Lille, France and the Eppendorf Gesamtschule in Hamburg, Germany. It is intended that similar links will be made during 1997 with a third secondary school in Spain, the I.B. Adormideras in La Coruña.
- 2.2 The pilot programme for this project started in April 1995 when telephone links were established with the partner schools in Lille and Hamburg. In May 1995, a video-conferencing trial was initiated in conjunction with the Open University (OU) Study Centre in Hagen. Then, in the Autumn of 1995, the Head of Modern Languages visited the schools in Lille and Hamburg, and installed PictureTel video-conferencing terminals. Significantly, to avoid any difficulties with connectivity, both the software and hardware are identical at all three sites. By January 1996, the project proper was under way.

Other projects at the school

- 2.3 The involvement of the school in the Students Across Europe Project has attracted considerable interest, both nationally and also within the European Union (EU). Whilst this project was possibly instrumental in initially raising the profile of the school, the school has commitments to other projects, and it is these projects which are the subject of this section of the report, to provide an indication of the variety and scope of the activities being undertaken, all of which are a reflection on the vision of the headteacher and the commitment of the staff at the school.
- 2.4 The school has been given approval by the EU to become a centre for a similar, but more ambitious, project, entitled Students Across Europe Language Network (SAELN). SAELN is a £1 million-plus project linking schools in Europe and is a combination of schools and students, educational resource developers and communications infrastructure developers. The emphasis of the project is on communication via high-speed computer and telematics networks. It will create a language-learning network delivering multimedia, text and televisual materials which can be accessed from WWW sites. The SAELN service is designed to provide a full linguistic environment for the learner, and it will be integrated with interactive services which allow students to communicate with each other across the continent.
- 2.5 The school is also the centre for a pilot project with the Open University (OU), which has now been in operation for over a year. A group of Monkseaton pupils follow the OU's first-year course 'Open Mathematics' at the same time as their A-level programme. The pupils are registered undergraduates at the OU and are taught in the same way and by the same staff as any other OU undergraduates. The first cohort of pupils has now passed through the course; all ten pupils completed the course satisfactorily and five of them were awarded distinctions.
- 2.6 The school was recently granted Language College status and is heavily involved in promoting itself within the local community. A bid is being prepared, in co-operation with the OU, to the EU for funds to research how educational multimedia can be used to promote learning through links between the school, home and local industry.

- 2.7 The school is actively investigating a planned development to provide a networked ISDN link between Monkseaton Community High School, local special schools and the homes of disabled pupils to enable telematically-mediated learning to take place.
- 2.8 In addition to the projects mentioned above, the school is currently having discussions to investigate ways in which, through video conferencing, students on teacher-training courses at Newcastle University will be able to observe lessons at Monkseaton Community High School.

Project aims and objectives

- 2.9 The aim of the Students Across Europe Project is to implement new forms of language teaching and learning, based on peer-group tutoring through a range of affordable broadband and narrowband technologies, and, as a consequence, to improve the language skills of pupils through an integrated course of voice-based interactive technologies (telephone and video conferencing) coupled with the use of multimedia (CD-ROM and television), all of which are linked to traditional teaching.
- 2.10 The headteacher has a very clear vision of the school as a learning resource for the whole community. He also seeks to change the way pupils approach learning. IT is particularly important in this context through its potential for use in accessing remote-learning resources and programmes to support learning outside the classroom, before and after school, and in the home. The headteacher wishes to provide a whole series of productive and motivating learning opportunities outside lesson-time, both during the school day and outside it. The learning resources are seen as supplementary to class work. He is also keen to develop a continuity of learning and common use of educational capital equipment between his feeder schools and special schools on the one hand, and higher education on the other. He views the physical resources as subservient but necessary to the human interaction involved in the projects. In school terms, the EDSI project is seen as just one aspect of this vision.

Technical issues (hardware and connectivity)

- 2.11 The school possesses a considerable quantity of computer hardware and, even before this project began, there was a strong commitment to IT in the school. Recently, the school received a 128MB RAM Unix file-server with an 18GB hard drive which will be used to deliver teaching materials to a variety of sites throughout the school.
- 2.12 However, specific to this project, the equipment used at each end of the two operational video-conferencing links is identical, namely 486 PCs running under the Windows 3.1 environment and using PictureTel hardware and software over ISDN2 lines. All equipment was supplied by Research Machines.
- 2.13 Along with I.B. Adormideras at La Coruña, Monkseaton has a second video-conferencing PC supplied by Siemens. This configuration supports the Siemens video-conferencing software and hardware board. Consequently, because of the, as yet, non-universal conformance to the T120 standards (which allows whiteboarding and application sharing as well as video telephony), the schools at Lille and Hamburg will not enjoy the full range of facilities when communicating with the Spanish school.
- 2.14 The video-conferencing equipment at Monkseaton Community High School is located in two small rooms close to the school's library.

Sponsorship

- 2.15 The acquisition of the necessary funds and hardware could not have been achieved without the active involvement of industrial sponsorship. The major sponsors for

this project are ICL, Research Machines, United Artists and PictureTel, with the school receiving other sponsorship (not just for this project) from these firms, as well as Reed Elsevier/Heinemann, Yorkshire Thomson Multimedia and the BBC Languages Unit (software). Channel 4 has also offered the school over one thousand hours of educational material in digitised form which could be distributed following the installation of the server and its associated network.

- 2.16 Not all sponsorship relates directly to the video conferencing, but this is an indication of how heavily the school has been able to rely upon its sponsors to provide capital, revenue and materials, in order for the projects, and indeed the IT capabilities at the school, to be developed.

Project evaluation

Evaluation visits and procedures

- 2.17 In addition to the normal evaluation visits, video-conferencing sessions between pupils at Monkseaton and Lille have been observed and video-conferencing discussions have been held with staff from the schools at Hamburg and Lille.
- 2.18 The school has co-operated fully with the evaluation procedures and has provided additional published materials relevant to the main themes of the evaluation, for example an Interim Steering Group Report, an Open University Evaluation Report and an A-Level Information System Report for 1996 results.

Management and representation

- 2.19 Although this is a small project, in terms of its focus and location within a single school in the UK, it has attracted significant interest from both the academic and business communities, and this is reflected in the make-up of the Steering Group which is also representative of the sponsorship which the project has attracted.
- 2.20 The Steering Group for the project is chaired by the headteacher who is also the Project Director. The group comprises representatives from Newcastle University, Durham University, Sunderland University, The Open University, BBC Education, Yorkshire Thomson Multimedia, Research Machines, ICL Learning Systems, Reed Elsevier/Heinemann publishers (electronic and paper-based), North Tyneside TEC and North Tyneside Council. The Head of IT, the Head and Deputy Head of Modern Languages and a further member of staff from Monkseaton School, who is the Project Officer, are also included.
- 2.21 Steering Group meetings are held on a regular basis of about one per term.

Project activities

- 2.22 The video conferencing is undertaken primarily with pupils in the sixth form, the Year 12 and Year 13 Modern Languages groups, with each student having half an hour of video conferencing each week. The students work in pairs (two in the UK and two each in France and Germany) until confidence is built up, when one-to-one conferencing may take place. Students speak to the same partner-pair each time so a rapport is established. Conversation is in the students' own language for half of the session, then in the target language for the other half session. Recently, the video conferencing has been established with Year 9 pupils and with Year 11 pupils for GCSE topic work, with the Year 11 activities occurring on a regular weekly basis. Video conferencing has so far been confined to activities in Modern Languages (that is French and German), but it is anticipated that, during 1997, an Anglo-German project funded by the Central Bureau for Educational Visits and Exchanges will materialise. This would involve video conferencing of English students with German students and their families, as part of a History project about the German experiences of World War 2 in Hamburg. This reflects the headteacher's general

approach that the human side to learning is highly important and that the technology is subservient to this, particularly in video conferencing.

- 2.23 Although the video-conferencing sessions take place at scheduled times, this is during the students' free time, that is time is not taken out of the Modern Language lessons, but is additional to that allocated for the subject. In Hamburg, the students are taken out of their scheduled lessons (which may be Geography, Chemistry, etc.) for the video-conferencing sessions. In Lille, students volunteer for sessions in their non-contact time. The arrangements appeared to work well between Monkseaton and Lille, but less so between Monkseaton and Hamburg, where there were difficulties in matching the timetable slots, which were compounded by the German pupils being unavailable in the afternoons. Monkseaton pupils video conference during their study periods and, thus, there is no break with their normal languages tuition.
- 2.24 Currently, the video-conferencing facilities in Monkseaton are booked in excess of 50% capacity and, whilst this could rise, it would inevitably lead to an increased restriction on the available time, since the pupils use the video conferencing within their unallocated time.
- 2.25 In addition to video conferencing, the pupils are encouraged to maintain links with their partners abroad through telephone conversations during 'out of school' time. Shortly before Christmas 1996, they were provided with BT phone cards, which they could use from any telephone in the UK and which would enable them to call only their partner's home telephone. They were not able to use this facility to make any other telephone calls.

Teaching and learning issues

- 2.26 Interviews were held with six students taken from classes in Year 12 and Year 13. Without exception, the pupils spoke highly of the benefits of video conferencing and how it had improved their use of language, their understanding of the French and German cultures and, above all, their confidence in using the target language. These clear benefits were confirmed by interviews with staff and were indicated in lesson observation of the use of video conferencing.
- 2.27 Video conferencing had often led to the establishing of firm friendships with counterparts abroad. However, the pupils felt that it was important for any difficulties with partners to be reported early so that more appropriate partnerships could be arranged. One interesting feature of the organisation of the video conferencing at Monkseaton School is that there is an emphasis on continuity, that is the pupils get to know their partners very well, friendships are formed and there is a genuine desire to help, something which perhaps would not be present if they were frequently changing partners.
- 2.28 The video conferencing has been an undoubted success at Monkseaton School and it has helped considerably in developing the language skills of the pupils. It is possibly best summed up by Michael, a Year 13 pupil, who said, "It makes you more confident in speaking and better at listening skills as well, because you're actually talking to a French person. It's mainly just the confidence of speaking and obviously it improves just about every thing to do with the language."
- 2.29 The school has attempted to measure the learning gains which are attributable to the project. However, it is not clear how much weight can be given to the statistics provided, since they are based upon (i) a two-year comparative study of students studying French and German, and (ii) a single-year French versus German comparison using the data from the ALIS (A-Level Information System) Report for the school for 1996. Comparisons over different years could not be made since it is only the 1996 results which could have benefited from peer group video conferencing and this has been confined essentially to those pupils taking French.

However, the results would indicate that the pupils who participated in the video conferencing, that is those taking French, had almost one-third of an A-level grade improvement on those pupils who did no video conferencing. From a statistical viewpoint, there are too many variables in this data which are not 'controlled', compounded by the problem of a small sample size, and, hence, the findings should be treated with caution. However, they are an encouraging and positive indication of possible benefits flowing from video conferencing that require more investigation.

- 2.30 It is perhaps inevitable that comparisons will be made between the effectiveness of video conferencing and the use of a language assistant; indeed during the interviews the pupils themselves occasionally made a comparison. To them, video conferencing and the language assistant performed similar functions, but they felt much more comfortable talking to someone who was of a very similar age and who had similar interests, rather than to an assistant who was effectively a 'teacher' and within the school culture, that is they preferred peer-group tutoring.
- 2.31 As well as requiring suitable partners and compatible equipment, effective video conferencing depends upon careful preparation. For the pupils, the requirement of good preparation was clearly understood, and this was emphasised repeatedly during the interviews. The pupils were helped considerably by having a GCSE questions booklet (devised by the school), which they were able to use for conversational topics if the activity appeared to be losing momentum.
- 2.32 Preparation by the staff must also occur well before the work with the pupils, and effective communication channels to support this must be established, so that both partners know what they each require from the sessions and will seek to satisfy their respective needs. The professional approach to these issues has contributed to the success of the project.
- 2.33 In brief, the recipe for successful video conferencing in this project was:
- compatible partnering
 - continuity of partners
 - a well thought-out curriculum
 - careful preparation by both staff and pupils
 - regular sessions
 - adequate time slots.

Evaluation comments from Hamburg and Lille

- 2.34 There are about 20 students aged between 15 and 16, who are involved with the project at Hamburg. These students are from the top of the ability range and consequently their English language skills are very good. Since these students attend schools only in the morning and have no unallocated time during this period, they are taken out of their timetabled lessons in groups of four for the video conferencing, thus missing part of other subject lessons.
- 2.35 Video conferencing is seen as strongly motivating by the pupils, and as a means of developing their self-esteem as well as their language skills and their understanding of a foreign culture. It is hoped that, in the future, a greater emphasis will be placed on strengthening links to other aspects of the curriculum because, at the Hamburg school, video conferencing is seen as only a small part of possible electronic links with other schools, where English language is the vehicle of communication which will enable information interchanges to take place in a wide variety of curricular areas.

- 2.36 At Lille, the video conferencing in English and French has been seen as very worthwhile, not only in terms of linguistic proficiency and confidence but also in the additional motivation for students of the personal contact with peers abroad. This human and friendship aspect of the communication in the foreign language was seen as particularly rewarding and important for pupils, but did rely upon the careful matching of partners with respect to age, linguistic competence and confidence. The organisational difficulties of matching timetable and curricula had proved less significant than for Hamburg. The French school was happy to agree a programme of topics and felt this had posed no problems, though some of the more competent pupils would have preferred to establish their own topics of conversation. Some video-conferencing contact had been made with Hamburg, for example a German politician had participated in a video conference as part of a European week in the school in Lille. The school was keen to further develop these video-conferencing links with Hamburg, but the main constraint had been the costs involved which were reported to be approximately ten times the cost of the Monkseaton-Lille link with BT.

Hardware and connectivity issues

- 2.37 In many ways, the hardware and connectivity difficulties have been avoided or minimised through the foresight of the managers of this project, in that identical equipment has been installed in each of the schools, and that the Monkseaton staff actually delivered and installed the system themselves. This prevented incompatibility problems which would arise through equipment being configured to different standards, particularly the T120 standard. This also ensures that Monkseaton Community High School can communicate with its partners using all the features of the video-conferencing system, which includes whiteboarding, text talk and shared applications.
- 2.38 The equipment has proved to have been extremely reliable. The only faults which have occurred have related to the line dropping, which was an ISDN problem and was resolved through requesting BT to set a higher default error marker at the telephone exchange on their ISDN line.
- 2.39 In use, the pictures and sound are clear and quite adequate for the purpose. The pupils have reported that the equipment is easy to use and they are able to acquire proficiency with the minimum of direction and supervision, so that the operation of the video-conferencing link is undertaken without a member of staff present.

Costs and cost benefits

- 2.40 The project has received financial support from several organisations which are detailed below:
- £300K from ICL
 - £25K from Research Machines
 - £20K from United Artists
 - £10K from PictureTel.
- 2.41 Running costs for the video conferencing are estimated at £6,000 per annum. The bulk of this is taken by telephone charges, but this does include the quarterly ISDN line rental. It is important to note that the video conferencing is always initiated at Monkseaton, and not at the schools abroad, hence, those schools do not pay telephone-usage charges.
- 2.42 Whilst the initial start-up costs are estimated to be in the order of £20,000 (four PCs with PictureTel boards), there is the added cost of the time spent (travelling,

installing and troubleshooting) by the Head of Modern Languages during the set-up phase.

- 2.43 The benefits which have accrued to the school are considerable. It is through this project particularly that Monkseaton Community High School has become known nationally and indeed internationally. The status of the school has been raised and the school has an enviable reputation for effective use of video conferencing in Modern Languages. As the headteacher has indicated, this expertise will be useful in developing the use of IT in other areas, for the benefit of the pupils, local industries and the local community. It is also expertise which will attract sponsorship and finance to the school, and provide a good foundation for other related projects using the new technologies.
- 2.44 The benefits which have been gained by the pupils are significant, particularly in terms of their skills in modern languages. As well as developing their language-related skills, the self-confidence of the pupils has grown, a fact that did not escape the pupils who were interviewed.
- 2.45 In brief, the project has been an undoubted success. The initial costs, whilst not insignificant, are not insurmountable for any school, possibly helped, like Monkseaton, by sponsorship. Once this has been obtained and the organisational infrastructures are in place (possibly the most difficult task), then the benefits to the school and the community become realisable.

Project replicability

- 2.46 As has been indicated previously, the initial start-up and running costs for a similar project should, with the help of sponsorship, be within reach of other schools. The difficulty will be in identifying schools abroad, similar to those in Lille, Hamburg and La Coruña, who will be prepared to be involved in a project. Locating such schools is no easy task, nor is persuading them to invest in the necessary hardware. It has been interesting to note that schools abroad suffer from similar financial constraints to UK schools, and, in this project, all calls have been instigated from Monkseaton, thus meaning that the project has been of limited cost to those schools on mainland Europe. If difficulties such as these can be overcome, and they are not insignificant problems, then, given the enthusiasm and dedication of staff who are prepared to be involved in the organisation and preparation (which is on a continual basis), the project could be replicated in other schools.

Progress and achievements

- 2.47 To a large extent, the aims and objectives of this project have been achieved, and video conferencing is an established feature of the Modern Languages courses at A level.
- 2.48 The ordinary voice telephone links, although in place, do not appear to be widely used. The pupils are a little unsure as to who will answer when they call and, as they have indicated in discussion, whilst they are confident of speaking to their counterparts abroad, they sometimes lack the confidence of speaking to an unknown adult over the phone.
- 2.49 The project in the specific area of integrating video conferencing into the sixth-form Modern Languages curriculum has been an unqualified success. This has been shown through lesson observation, through numerous student interviews, and through eliciting the opinions and attitudes of the staff who are principally concerned. Indeed, there are no features of the project which deserve negative comment, though some recommendations are given below. It is also a measure of the project's progress and success that the school is already involved in a more ambitious project, the Students Across Europe Language Network (SAELN) which has received funding from the EU.

- 2.50 Peer-group tutoring in Modern Languages, which is essentially the major theme of the project, has been established on a regular basis for the pupils who are studying French at A level. Success in establishing a similar activity with the German school has been limited, principally because of a timetable mismatch between the schools. From both an organisational and pedagogic perspective, it would appear that the peer-group tutoring through the video conferencing has been effective and, indeed, this is supported by all the evidence which has been accumulated during the evaluation.
- 2.51 Involvement in the project and the acknowledged success which it has achieved have raised the profile of the school significantly, and, in so doing, have helped to generate other funding and sponsorship. All of this could not have been achieved without the vision of the headteacher, and the enthusiasm and commitment of the staff, especially the Head of Modern Languages, and it is to these people that recognition should be given for the success of the project.

Commentary and recommendations

- 2.52 This is a particularly tightly-focused project based at one school (but involving others abroad), with the emphasis on developing the foreign language skills of the pupils (particularly those in Year 12 and Year 13) through the use of peer-group tutoring, allied to the introduction of broadband and narrow-band communication links, and built upon a foundation of traditional teaching methods. In the words of Philip, a Year 13 pupil, the project has been “a blinding success”. Indeed, all the evidence from both staff and pupil interview, and lesson observations would provide a strong measure of support to the sentiments expressed by Philip.
- 2.53 It is all too easy to belittle the success of such a school-based project, linked to one area of the curriculum, particularly when organisational and operational issues are small when compared with other projects of a more widespread nature. However, success is achieved only if many factors are in place and it is a discussion of these factors which becomes the theme of this section of the report.
- 2.54 The school had an existing strength in IT and in its applications across the curriculum, which naturally included Modern Languages. This, together with the commitment of the senior management team, specifically the headteacher who was the ‘project champion’, ensured that the project base in the school was laid on secure foundations.
- 2.55 The overall management structure for the project is interesting, considering that it is based on a single school in the UK. It would have been easy to fall back on a small management group comprising representatives of the school and the sponsors. However, the Steering Group also included University representation. This helped to ensure that a much wider knowledge base and experience, particularly in terms of pedagogical issues, was on hand to advise and direct the project’s development.
- 2.56 Technical advice came from Research Machines and the initial decisions, so crucial in providing a platform for future success, were the right ones, in that identical equipment was installed at all the schools. This was achieved through the Head of Modern Languages personally visiting each of the schools, installing the video-conferencing units and providing in-service courses for the staff. Having identical equipment in all of the schools helped to circumvent compatibility problems, which have bedevilled some other projects. Video conferencing is a comparatively new technology and, although standards have been agreed (for example H320 and T120), with so many different manufacturers involved, it is inevitable that difficulties will arise with equipment which is built to conform to one standard and not another; thus resulting in only partial fulfilment of the range of video-conferencing facilities which should be available. This applies particularly to application sharing which is governed by the T120 standard. Having identical

- equipment has also meant that any local problems could be quickly identified and, hopefully, speedily resolved.
- 2.57 The recent acquisition at Monkseaton and La Coruña of different video-conferencing equipment does invite a measure of concern in terms of compatibility issues between the French, German and Spanish schools, and this may preclude activities such as application sharing from taking place.
- 2.58 Although learning is through peer-group tutoring and conversation, this should not minimise the importance of other essential components of the organisational structure. Before such work can be effective, the student groups have to be arranged, and there must be a degree of compatibility between the students, that is the pupils should be of a similar age and have similar interests, and there should also be a strong commitment to establishing a good working relationship, as well as a mechanism to allow for change when problems arise. Pupils also need to prepare for the weekly video-conferencing sessions and to have acquired appropriate vocabulary, as well as having a series of questions ready, although, as one student pointed out, the preparation should not be ‘overdone’ since this tended to produce sterile conversations. The acceptance of responsibilities in respect of preparation was vital; the time allocation is brief, as well as costly; and it is important that monitoring is in place so that any untoward lapses can soon be discovered and rectified. In the pupils’ opinions, the peer-group tutoring had worked well. Indeed, many had developed very good relationships with their counterparts abroad, and had indicated that this often led to up-to-date magazine articles and newspaper cuttings being sent to help with their research topics.
- 2.59 Both pupils and staff at Monkseaton were well aware of the effectiveness of this form of tutoring, which occurred on a regular weekly basis. It had certainly developed the pupils’ language skills and their overall confidence, as well as their understanding of the culture of other countries. However, the use of video conferencing for peer-group tutoring raises several issues, in addition to those mentioned above, and three of these are now discussed.
- 2.60 Traditionally, language learning in schools has been supported by the employment of a Foreign Language Assistant (FLA), a native speaker attached to one or more schools for a period of about a year. To some extent, the use of peer-group tutoring would have similar pedagogical aims to those which govern the use of the FLA. For the pupils at Monkseaton, their preference is for the peer-group tutors, and they felt more ‘comfortable’ with someone their own age and similar interests, that is they were compatible. Of course, this does not invalidate the use of the FLA, who has other important and different roles in a school, particularly with lower-age pupils.
- 2.61 The second issue concerns the number of pupils involved and the difficulty of arranging timetable slots on a weekly basis. This has already proved a problem with the school in Hamburg, where there appeared to be less flexibility in the timetable than at Monkseaton and Lille. Once the numbers of pupils increase, then the likelihood of organisational difficulties will arise, and there will be insufficient time slots within the week for the video conferencing to take place. Thus, although the project works well and replication is clearly possible, extensions are less easy without rationing, a reduction in the frequency of sessions, or indeed the acquisition of additional facilities.
- 2.62 Thirdly, other related aspects of peer-group tutoring could perhaps be investigated further, such as the use of e-mail and shared applications. The latter is certainly possible given the present IT configurations at the schools and could be used for written work from the pupils. E-mail would require Internet connectivity, but would have the advantage of off-line and asynchronous usage, so that data could be sent when it was convenient for the pupils, and communication would not then be reliant on timetable compatibility. There are also some developments in network-to-

network video conferencing which may be worthy of exploration. In terms of this project, it would perhaps be useful to investigate other forms of electronic communication between the schools now that a good measure of rapport has been generated. This could lead to the extension of the project to lower age range pupils.

- 2.63 The difficulties which arise at the moment, of actually finding suitable partner schools abroad to become involved in video conferencing and having compatible equipment, may not be the difficulties which are experienced in the future. For most countries, there are more pupils wishing to learn English than there are English pupils wishing to speak the target language, hence there is an imbalance in the requirements. How much this will affect video conferencing with schools abroad is purely a matter for conjecture at the moment, but it does pose interesting problems, particularly if video conferencing becomes more affordable and its effectiveness as a curriculum resource is to be exploited.
- 2.64 The integration of video conferencing into the curriculum has not posed any organisational or pedagogical problems at Monkseaton or Lille, but at Hamburg the pupils have to be taken out of lessons for the activity. The pupils at Monkseaton and Lille use their study time for the sessions and there is consequently no withdrawal from lessons. The model of operation instigated at Monkseaton appears to work most effectively.
- 2.65 Pupils have not found any difficulties with operating the video-conferencing equipment and, consequently, there has not been a requirement for constant staff supervision and instruction. However, there may be a need for training in what may be termed 'good camera etiquette', such as an awareness of posture with regard to the positioning of the camera.
- 2.66 The accepted channels of communication between the schools are via video conferencing, telephone, fax and mail. For the most part, these appear to have worked efficiently for the organisation, preparation and operation of the activities. However, when difficulties do arise, there needs to be a convenient phone so that the Monkseaton pupil could inform their counterpart in Lille that a technical difficulty had arisen and how to proceed.
- 2.67 So far, the video conferencing has been restricted mainly to the curriculum area of Modern Languages. It has been singularly successful in its operation, thanks to the vision of the headteacher, and the enthusiasm and commitment of the Head of Modern Languages and his staff. The pupils have responded enthusiastically to the developments which have taken place at their school and are well aware of the benefits which have followed. Early evaluation, albeit with small groups, may indicate measurable achievements. It is important that the project continues to be evaluated so that indications of the benefits of peer-group tutoring via telematic communications are confirmed by more reliable statistical measures. The time is now ripe to consider other ways in which the project may be developed and, indeed, the school is involved in the much wider SAELN Project which will build upon the work of the Students Across Europe Project. However, video conferencing, although clearly very effective in developing the language skills of pupils, can also be used in other areas of the curriculum, and it is interesting to note that, now that good relationships have been established between the schools, it is planned to use the video-conferencing links to support additional curriculum usage.
- 2.68 Video conferencing is now a standard feature of the Modern Languages curriculum at Monkseaton School. It will be interesting to see how it develops in the light of all the exciting new projects which are beginning to unfold.