# EVALUATION OF THE SCOTTISH BORDERS "ACCESS TO A FULL CURRICULUM FOR ALL" PROJECT (QLC/2/5/41)

FINAL REPORT

Scottish Sensory Centre
Moray House School of Education
University of Edinburgh:
John Ravenscroft
Janis Sugden

Fife Council Sensory Support
Service:
Alison Duthie

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# Executive Summary

This document details an evaluation of the project, "Access to the Curriculum for All", that has been carried out in Scottish Borders Council (SBC) schools from September 2003 to January 2006. Specifically this evaluation focuses on the support for pupils with significant visual impairment before and after their transfer to SBC secondary schools. The SBC project is set within the national context of the Future Learning and Teaching (FLaT) Programme, the principal aim of which is to encourage schools, education authorities, and other bodies with a stake in school education to create a learning environment for the future which is sensitive to individual needs, which will promote attainment and which tackles the barriers to inclusive learning and teaching in the community. There are four focal points of interest:

1. within the classroom;
2. the pupils' and parents' perspective;
3. the impact on teachers and learners;
4. the implications for the future planning of the whole school development.

The overall aim of the evaluation project is to assess the effectiveness of the processes and procedures used in the development of a model of support for pupils with a significant visual impairment within the SBC. The evaluation project started in January 2005 and ran to February 2006.

Hawick High School and other feeder primary schools follow the Scottish Borders Council, Education and Lifelong Learning Disability Accessibility Strategy. The SBC has a commitment to inclusion as a key part of its education strategy. There are no special schools in the Borders where almost all children attend mainstream schools. It is a key policy of SBC to ensure that as many children as possible experience education alongside their peers in a mainstream setting.

Universally, the classroom environment, teaching methods and curricular materials in schools have all evolved to meet the needs of pupils who are fully sighted. As a consequence, difficulties are faced by a child with a visual impairment unless adaptations are made to all aspects of the school environment.

The introduction of specialist technology has influenced the methods of teaching employed to enable the VI pupils to access a full curriculum to their optimum ability. A range of specialist equipment is now available to these pupils. The effect of this project has been to make a significant contribution to the social inclusion of the VI pupils. The funding of this project allowed an enhanced transition period, which provided the opportunity for additional staff training and pupil awareness of visual impairment.

## Perspectives of Pupils, Parents and Staff

### Primary Schools

Informal interviews were conducted with staff of the primary schools attended by the individual children, one of whom was still in Primary 7. The broad aim of the questions was to determine:

- the choice of equipment used;
- the skill development of the children;
- the management of the child with a visual impairment in mainstream i.e. how staff related to the pupil and the technology;
- benefits to the child with a visual impairment and to the other children.

**Findings**: Parents and children were involved in deliberations about which equipment to purchase. Ease of use was the main factor.

All those interviewed assumed that responsibility for maintenance, repair and replacement of items of equipment lay with the Information & Communication Technology (ICT) teacher, support for learning. There was uncertainty about 'ownership' of the IT items.

It was clear that the Additional Needs Assistants (ANAs) and teachers of Pupil A and Pupil C thought carefully about how to encourage the children to reach their potential, and adapted methods and materials appropriately.

The class teachers in the two primary schools felt that adaptation to teaching method and materials had been of benefit to the class in general. Teachers and ANAs had greatly increased their knowledge and skills, in such a way that they would then be able to apply many of the skills to the support of children in their classes currently and in the future. Pupil A and Pupil C were undoubtedly using the technology and training provided as tools to further their learning and attainment.

The ANA played a crucial role in supporting the child's learning. It was very evident that the VI Pupils were gaining skills and 'can do' attitudes which would be a strong foundation for independent learning in their future school and adult careers. The attitudes of the staff were such that the children with a visual impairment would have had full access to the curriculum even without the aid of the technology. The technology, however, introduces skills which allow the child greater freedom, increases their standing amongst their peers and is line with IT developments throughout Scottish education.

The model illustrated in the primary schools attended by Pupil A and Pupil C should be easily replicated. The positive aspects are:

- thorough training in IT carried out by the visiting qualified teacher of children with a visual impairment (QTVI);
- appropriate equipment;
- support by the QTVI of the staff and parents involved;
- careful analysis by the class teacher of learning situations within the classroom and the wider experience of school, followed by a willingness to adapt practice as required;
- attention to the social aspects of inclusion: using structured group activities to encourage interaction, and not leaving it to chance.

**Secondary School**

The broad aim of the questions in this part of the research was to establish teachers' perceptions of the contribution made to successful inclusion by:

- Technology
- In-school support
- Specialist support
- Peer group support
- Teacher/pupil interaction
- Other factors.

There is no doubt in most classes that the laptops are very useful: they allow greater access to the curriculum.

Although equipment other than laptops was used to provide discreet support its use is not evident to teachers.

All the teachers were very appreciative of support from the school ANAs, and felt that the success of the children was dependent to a large extent on the work of the ANAs. There were very few occasions on which

teachers could envisage the pupils managing well in class without ANA support. In practical subjects such as science and home economics, it is normal practice in Scotland to have an ANA present for health and safety. Observation of the ANA working in class confirmed the different role played with each of the two pupils.

**Electronic Document Service**

Approximately half of the respondents use the electronic document service provided within the school. Some of these teachers supplement the service by producing their own materials on paper and on the intranet. Most class work is available on the intranet. About half of the required homework exercises are available on the intranet.

Teachers supply learning materials to the VI transfer assistant at the beginning of the session and thereafter discuss with the ANA any additional texts and diagrams that are needed. Only two teachers mentioned speaking face-to-face with the VI transfer assistant who does the adaptation and transcription.

The production of materials by the VI transfer assistant is of a very high quality, but depends on forward planning by teachers to ensure that sufficient time is allowed. The transfer assistant is not aware of her materials already being used by children other than those with a visual impairment, but was recently pleased to be asked to provide some enhanced sheets specifically for a pupil with different needs.

**Inclusion**

It was felt that both pupils are completely part of the class. Of Pupil A it was stated that they are "no less involved than any other pupil in the school". Pupil B is "well accepted and popular. . . . difficulties are not seen as being due to a visual impairment".

**VI Awareness**

Four pupils who were interviewed from Pupil A and Pupil B's S1 classes had been given awareness training at their primary school by the QTVI, the class teacher or the school nurse. The pupils felt that assistance from an ANA was essential. Classmates and prefects said that unless they were in class with Pupil A or Pupil B they would not notice them particularly. The school janitor was closely involved with the planning for transition of the pupils with a visual impairment, and had stayed in personal contact with them. There was no evidence that canteen staff had been briefed about the needs of the children.

One of the aims of the evaluation project is to determine if the model could be used elsewhere, not only in other schools of the SBC area but for other schools in Scotland that have pupils with visual impairment. Examples of good practice are highlighted which can be used within other authorities and schools.

Examples of good practice:

**Transition Planning and Awareness-raising**

**A. Visual Impairment Awareness-raising**

**Topic Boxes**

Topic boxes have been put in place in the feeder primary schools for Hawick High School and within the High School itself. The QTVI varies the content of the boxes to make them age-appropriate for the pupils. There has been considerable use of the simulation glasses, the handheld magnifiers, videos, specific children's picture books and stories, as well as biographies of other older pupils who are visually impaired.

The topic boxes are extensively used for visual impairment awareness as well as proving a valuable resource for the teaching of "The Senses" topic in the 5-14 environmental studies curriculum. The lessons, incorporating the topic boxes, have been delivered to good effect in the primary schools by the QTVI, a school nurse, classroom teachers and guidance teachers. In Hawick High School guidance teachers have used these boxes in Personal and Social Development (PSD) classes, so that all pupils receive visual impairment awareness training. The topic boxes therefore, are to be considered as a valuable tool in raising awareness of visual impairment.

## B. Training of Teaching and Auxiliary Staff

(i) The QTVI has developed a strong programme of visual impairment awareness, and all teachers within Hawick High School had attended the one-hour visual impairment awareness course one year before the pupils were transferred to the high school.

(ii) In June 2004, before the two children with a visual impairment entered High School, staff training was delivered by the QTVI within the High School, focusing on the eye conditions specific to the two children.

**Issues**: staff spoke highly of the quality of the training delivered. It is clear that staff training is a very significant feature in the roll-out of this project which would have to be considered seriously in the planning of any similar project in the future, locally or nationally. The QTVI herself expressed the importance of staff training in these terms:

> *"The big thing is the training of the staff. That is absolutely vital. I don't think (the project) would work unless you have the staff on board. I think that is the most important thing.*

*The school has to be aware that they are going to have to release staff. It is not just for staff who are getting the VI pupils which is what I have done previously in high schools. Previously, I have done training but only for the staff who are going to be getting pupils, whether the pupils are going to be in first year or second year. That is not really enough because they do fluctuate and cover for each other, and stand in for each other. You want staff who are going to be able to get them in fifth year to be able to know what is ahead. It has got to be the whole staff."*

# Recommendations

The evaluation team consider that the FLaT funded project, "Access to a Curriculum for All" can be used as a model to support future inclusion of pupils with visual impairments. The following recommendations are made:

**Personnel**

**(a) Keyworker**

It is essential to have a designated keyworker within a large school. This person should take responsibility for the day-to-day support needs of the pupil with visual impairment, including:

- overseeing the electronic document service;
- conveying questions to the visiting teacher and liaising often with her/him;
- discussing needs, as they arise, with the pupils and parents.

**(b) Transcription Assistant**

There should be:

- a more definite job description for the transfer assistant;

- clear outline of responsibility;
- clear line management;
- efficient system for organisation of tasks;
- continuous opportunities for teachers and the assistant to meet and discuss materials.

**Partnership Working**

When plans are being made for the support of children with complex additional support needs, it would be advisable to incorporate advice from other professionals involved with the child, such as speech and language therapists and physiotherapists.

**Use of Information Networks**

Professional networks which are spreading throughout education can now be used for advice. It is helpful to extend consultation with other regions who are developing similar services.

**Budget**

A rolling budget is required to allow upgrading and repair of equipment and to avoid "just in case" spending.

Finally it should be noted that the evaluation team felt that personal support from a qualified teacher is irreplaceable.

# SECTION 1: THE CONTEXT OF THE "ACCESS TO THE CURRICULUM FOR ALL" PROJECT WITHIN SCOTTISH BORDERS COUNCIL

**1.** This document details an evaluation of the project, "Access to the Curriculum for All", that has been carried out in Scottish Borders Council (SBC) schools from September 2003 to December 2005. Specifically this evaluation focuses on the support for pupils with significant visual impairment before and after their transfer to SBC secondary schools.

## 1.1 The National Context

The aim of the Future Learning and Teaching Programme is to encourage schools, education authorities and other bodies with a stake in school education to create a learning and teaching environment for the future which is sensitive to individual needs, will promote attainment and which will tackle barriers to inclusive learning and teaching in the community. A key feature of the inclusive school is a full curriculum for all. This challenge for school managers involves supporting the development of staff skills and enthusiasms as well as providing a significant learning environment for all concerned.

## 1.2 The School Context

SBC has just over 17,000 pupils in school from Nursery to Secondary, attending 65 primary schools and 9 high schools. Hawick High School is a non-denominational secondary school which serves Hawick and its surrounding area. It has approximately 1011 pupils on its school roll. (HMIe, Inspection of Standards and Quality in Hawick High School Scottish Borders. 2004)

The support service for pupils with visual impairment is based at Earlston and consists of one part-time teacher of the pupils with a visual impairment.

## 1.3 Characteristics of the School

Hawick High School includes a unit which provides learning support for pupils with additional support needs, within and beyond the catchment area. The school buildings are continuously being improved.

The school statistics suggest that the overall quality of pupils' attainment was fair at S1 to S4 and good at S5/S6. The percentage of pupils achieving three or more A-C awards at Higher by the end of S5 was in line with the national average. (HMIe, Inspection of Standards and Quality in Hawick High School Scottish Borders (2004).

Parents expressed positive views about the work of the school. All or almost all felt that:

- their children enjoyed being at school, were treated fairly and were shown care and concern by staff;
- teachers set high standards for pupils' attainment and made these standards clear to parents;
- school reports gave helpful information about their children's progress and parents' evenings were helpful and informative;
- staff made parents feel welcome in the school and acted effectively to deal with any concerns they raised;
- school buildings were kept in good order;
- the school was well led.

HMIe, Inspection of Standards and Quality in Hawick High School Scottish Borders (2004).

## 1.4 School Aims, Policy and Strategy

The School had been inspected by HMIe in March 2004 with a follow up in June 2006. In general, the report by HMIe was very positive. With respect to children with additional support needs they had indicated in the first inspection the following:

> "[That] *provision for supporting pupils who experienced learning difficulties was good. Strong features included*
> - *promotion of an inclusive ethos for young people with special educational needs, including appropriate participation in the mainstream curriculum;*
> - *the commitment and professionalism of special educational needs auxiliaries; and*
> - *the contributions made by learning support teachers and ancillary staff to raising attainment, by supporting a number of school initiatives."*

However, the inspectors did note:

- *"the school and the department now needed to improve the allocation and deployment and management of teaching and auxiliary staff to raise morale in the department and to increase its effectiveness in meeting pupils' needs.*

- *Staff needed appropriate training for supporting the needs of pupils with complex additional support needs."*

SBC is adopting a policy of mainstream education for all pupils with visual impairment, including those pupils with multiple disabilities. Of the current group of pupils with significant visual impairment in the Hawick

High School cluster, two have transferred to the Hawick High School. A third pupil was in the final year of primary education and is now currently attending another school outwith the SBC area.

Within Scottish Borders Region there are other younger pupils with similar levels of need in the Peebles, Eyemouth and Hawick areas. It is assumed by Scottish Borders Education Department that these children will continue to attend mainstream primary schools and later transfer to a mainstream secondary school. Parents have been consulted and this is their wish. These pupils were not part of the FLaT project therefore were not involved in the evaluation.

SBC strongly adheres to a policy of inclusion, advising that the needs of all pupils can be met within mainstream schools. The curriculum should be made fully accessible to them in this setting. Furthermore the Education (Disability Strategies and Pupils' Educational records) (Scotland) Act 2002 requires education authorities to write an accessibility strategy.

> *"Pupils with disabilities should, as far as possible, have a full and broad curriculum, similar to that followed by their non-disabled peers."*
>
> (Scottish Borders Council Accessibility Strategy 2003 – 2004)

## 1.5 The Main Aims of the SBC Proposal

The project proposal developed from the work of the Hawick High School Visual Impairment Transfer Group. The group determined that the project should:

- recognise and cater for the individual needs of pupils with a visual impairment;
- be sustainable after the end of the project and be utilisable as a model for other high schools in the SBC area;
- take advantage of recent developments in computer, school network and digital audio technology; and
- become a model that the authority will adopt for all newly diagnosed/enrolled VI pupils.

From these general aims more specific aims of the project were evolved:

- to develop within schools an ethos of acceptance, understanding and support for pupils with visual impairment;
- to provide a wide range of approaches to allowing pupils access to the curriculum and to evaluate these solutions with the pupils;
- to develop a sustainable system of entering curricular materials on the school's intranet in such a way that the pupils could subsequently retrieve them wirelessly;
- to investigate the value of these developments to other 'text impaired' pupils – especially those with reading difficulties (Hawick High School only).

These project aims must be viewed in conjunction with the overall objectives of the FLaT programme which are detailed below.

- enriching young people's learning experiences;
- promoting attainment and achievement;
- tackling barriers to inclusion;
- creating a learning and teaching environment that is sensitive to individual needs.

# SECTION 2: THE AIMS AND METHODOLOGY OF THE EVALUATION PROJECT

**2.** As detailed above, this document represents an evaluation of the project, "Scottish Borders Access to a Full Curriculum for All". There are four focal points of interest:

1. within the classroom;
2. the pupils' and parents' perspective;
3. the impact on teachers and learners;
4. the implications for the future planning of the whole school development.

The overall aim of the evaluation project is to assess the effectiveness of the processes and procedures used in the development of a model of support for pupils with a significant visual impairment within the SBC. The evaluation project started in January 2005 and ran to February 2006.

## 2.1 Specific Aims

The evaluation project has 4 main aims which follow the National Priorities.

### Aim 1: National Priority: Achievement and Attainment

2.1.1 Attainment: It is understood that a pupil's participation in the full curriculum is regarded as a major contributory factor in the realisation of that child's potential. Therefore this evaluation investigates the extent to which the full curriculum is accessible to students with a visual impairment and to those who, for other reasons find text difficult. Consideration was given to a wide range

of approaches which enable VI pupils to access the curriculum, under the broad headings of:

1. Specialist technology;
2. Adaptation of classroom teaching methods;
3. Development of inclusive attitudes among all school personnel.

2.1.2 Achievement: The assessment of personal achievement is more subjective. The opinions of the pupil, teachers and parents were sought throughout this evaluation.

**Aim 2: National Priority: Learning for Life**

To evaluate the views and experiences of parents of young people involved in the project and any impact on staff and pupils in cluster primary schools required a wide range of methodologies which included individual interviews, sample questionnaires to peer pupils and classroom observations. We aimed through this evaluation to try and estimate the part the learned skills will play in the future of the pupils as they progress through education and employment.

**Aim 3: National Priority: Inclusion and Equality**

To evaluate how the project has promoted equality and has helped every pupil benefit from education, with particular regard paid to pupils with visual impairment and additional support needs. We specifically looked at how in the High School the SBC project has tried to develop an ethos of acceptance, understanding and support for pupils with visual impairment.

We examined the encouragement of VI awareness among the target pupils' contemporaries in other feeder primary schools and in secondary schools.

The monitoring of the social context and the fostering of networks of learning partners was examined.

**Aim 4: National Priority: Values and Citizenship**

To what extent do pupils with VI have access to a full curriculum? Are they, as a result of the project, fully included in the life of the school? Answering these questions required the use of a broad range of methodologies including face-to-face interviews and peer questionnaires.

## 2.2 Research Methods

The evaluation is based primarily on a set of case studies of the educational inclusion of VI pupils, not only because the number is low (N=3), (Visual Impairment is low incidence[1]) but in particular because one of the outcomes of the evaluation is to judge the success of the SBC implementation as a model that the authority and other authorities might adopt for all visually impaired pupils in Scotland. This report will be making some suggestions and recommendations for improvements in terms of taking the project forward.

This evaluation is therefore substantially qualitative in character. It will include evidence to be collected from secondary sources viz. documents

[1] 6 of every 10,000 children born in the UK each year become severely visually impaired or blind by their 16th birthday and a further 12 becoming visually impaired (worse than 6/18 or 6.5 to 1.0 Log MAR).

Rahi J, Cable N. Severe visual impairment and blindness in children in the UK. *Lancet* 2003;**362**(9393)**:**1359-1366.

that helped to describe the project, in terms of its establishment, aims, evolution and recorded outcomes.

## 2.3 Methodology

2.3.1 Interviews, designed to allow the articulation of the various perspectives of the people involved in the project, were conducted with:

- the pupils with a visual impairment;
- classmates and prefects;
- parents;
- the teacher of children with a visual impairment;
- the ICT support for learning officer;
- teaching and auxiliary staff;
- ancillary workers in school.

2.3.2 The following activities were also undertaken:

- Questionnaires to teachers of specific subjects.
- Observation of classroom practice, both primary and secondary.
- Examination of reported liaison activities between primary and secondary school staff.
- Discussion during meetings with the ICT support for learning officer and the QTVI.
- Scrutiny of documentation within Hawick High School.

SECTION 3: SCOTTISH BORDERS ACCESSIBILITY STRATEGY

## 3. Education & Lifelong Learning Disability Accessibility Strategy

Hawick High School and other feeder primary schools follow the SBC Education and Lifelong Learning Disability Accessibility Strategy. The SBC has a commitment to inclusion as a key part of its education strategy. There are no special schools in the region and almost all of its children attend mainstream schools. It is a key policy of SBC to ensure that as many children as possible experience education along side their peers in a mainstream setting.

The Council boasts a long standing commitment to training specialist teachers, class teachers, and ANAs. All schools have in the past two years undergone an audit to address physical accessibility issues. SBC has initiated a four year rolling training programme "Inclusion: Policy and Practice". As part of this programme the current inclusion policies and practices will be audited. Professor Donnie Macleod has completed an accessibility audit for the secondary school sector. As Scottish Borders has a history of non-segregation of pupils with additional support needs a great deal of work has already been undertaken by SBC in developing systems, skills and resources in the mainstream schools to support these pupils.

### 3.1 Previous Studies

This evaluation will consider the work already carried out by SBC with respect to its Accessibility Strategies. It will also utilise in its evaluation modern research into inclusion and practice. Ainscow and Tweddle (2003:173–174) list four elements of inclusion. These were arrived at in consultation with a sample of participating local authorities:

- Inclusion is a process (it has no final state).
- Inclusion is concerned with the identification and removal of barriers (consequently, information is needed).
- Inclusion is about the presence, participation and achievement of all pupils.
- Inclusion involves a particular emphasis on those groups of learners who may be at risk of marginalisation, exclusion or underachievement.

Ainscow et al (1999), state that policy for inclusive education should be "short, containing a view of the future and basic values and principles; be stable and relatively unchanging; capable of being internalised and applied to other policy areas; developed through the active engagement of all stakeholders; clear, despite diversity of opinions amongst stakeholders; led by the local authority; supported by a clear Government lead; and be carefully and systematically managed throughout its implementation."

The above represents the 'ethos' of an ideal long-term, structured intervention, and the description suggests a number of relevant questions, that could be discussed throughout the evaluation process, linking the project to wider issues of national importance.

Inclusion also implies a moral responsibility to ensure careful monitoring, which aligns with Fitz-Gibbon's (1996) profoundly *social* comment that "we should measure that which we care enough about to bother measuring." However, there is a recognised danger in the use of data to monitor the progress of children or in the evaluation of the impact of interventions, because evaluations conducted on the basis of 'narrow, even inappropriate, performance indicators can be deeply damaging,

invite misinterpretation and have a negative effect on the behaviours of professionals' (Ainscow and Tweddle 2003:175). Therefore, evidence collection needs to relate to the presence, participation and achievement of *all* pupils. This necessitates a focus, within such methods as classroom observation, on the classroom as social space, rather than on individual performance.

Indeed, Allan (2003:183) has noted that one of the biggest barriers to inclusion is the tendency among professionals to mythologise progress towards it, pronouncing that it is "not yet there", which presupposes that we have a clear idea of what full inclusion looks like in practice. This current project therefore, draws upon the present understanding, among the cluster of schools, about which structures and practices are necessary in order to achieve full inclusion, and evaluation needs to be aware of and responsive to these local norms.

A general sensitivity to the project as part of overall school improvement strategy is appropriate, in the light of a gradual shift away from a quantitative focus on system to one that is more centred around curriculum change and flexibility, and professional development and experimentation (Clough 2000:24). The contributions of teachers to the evaluative process therefore take the form of generation of data for observation and discussion that can also help to develop a grounded theory of good classroom practice for pupils with a range of visual impairments and additional difficulties

## 3.2 Recent Legislation

This evaluation will also take into account the recently introduced Education (Additional Support for Learning) (Scotland) Act 2004 which introduces a new framework for supporting children and young people in

education, and their families. This framework is based on a concept of a wide spectrum of additional support needs. This term will apply to the children in this evaluation. The Act imposes duties on education authorities in connection with the provision of education for children and young people with additional support needs. The Act makes clear that authorities must make adequate and efficient provision for the additional support required for each child or young person with additional support needs. The Act also makes clear that SBC should take a holistic view of children or young people and their circumstances, and of what they need to grow and develop and achieve their potential.

Although the Act came into force on 14th November, 2005, at the very end of this evaluation period, the team have attempted to incorporate the code of practice guidelines as advice for the evaluation.

SECTION 4: ACCESS TO A FULL CURRICULUM

## 4. Basic Issues

In order to evaluate the degree of success that has been achieved throughout the project it is important to fully understand some of the basic issues that are faced not only by the VI pupil but also by the teacher, classroom assistant, and other members of staff who are involved in supporting the child in mainstream school.

### 4.1 The Child with Visual Impairment in a Mainstream Class often experiences the following Barriers to Learning

In general, published learning materials are designed to be attractive to the eye: they are intricate, coloured and use text of various fonts and sizes. Computer displays include interesting graphics and are navigated using a mouse and icons.

Most school buildings are designed for children with full sight.

The most common conditions in children with a visual impairment cause loss of visual acuity, which means how clearly we are able to see. This may be loss of distance acuity or a loss of 'near' acuity. Visual field, the area we are able to see, may also be affected. Loss of contrast sensitivity is also a relatively common feature for children who have a visual impairment.

#### 4.1.1 Physical attributes of the classroom

- Lighting may be too bright or too dim.

- The blackboard/whiteboard may reflect light or have poor chalk/board contrast.
- Electrical sockets may be too few and not in the optimum position for the child.
- There needs to be enough space for the manipulation of equipment, larger papers and folders.

4.1.2 The presentation of teaching and materials

- The blackboard/whiteboard may not be seen clearly.
- Wall displays of children's work may not be seen clearly.
- Most children gain information from notices on the wall incidentally. These may not be seen by pupils with VI.
- The pace of the lesson may be too fast. A VI child takes longer to read materials, change focus between jotter and textbook and to write answers. Unless the task is reduced in volume, the VI child may not be able to complete it and to achieve success.
- Demonstrations of equipment and method may not be seen.
- The teacher's face may not be visible. This means that the child does not know, unless his name is mentioned, whether the teacher is speaking directly to him/her.
- Body language and facial expression may be missed and the child with VI may not know if their teacher is being pleased or angry with them or someone else in the room.
- Information on video/DVD must be reinforced by oral input or the VI pupil must be given the opportunity to view the video/DVD separately on their own.

4.1.3 Teaching strategies

- Where necessary text must be enlarged or adapted to suit the pupil's needs. This may mean reformatting and paginating

electronically stored text, or retyping from scratch. The simple enlargement of A4 to A3 by photocopying produces unwieldy pages.

- Poor photocopies are not usable because of the print size, layout and style of printed material. Contrast difficulties may be caused when coloured illustrations are photocopied or originals are of a poor quality.
- A VI child cannot share a textbook.
- Maths and modern languages texts are commonly presented using different background and print colours on each page, and a variety of text effects such as speech bubbles, italics, etc. This makes them visually appealing and interesting for sighted pupils. A VI child cannot take in information at a glance and so cannot navigate round these pages easily. The use of different coloured writing, for example red on white may cause difficulties as the low contrast makes it difficult to read the print.
- The VI child may not be able to read their own handwriting, and therefore must use other methods to record their answers, for example touch-typing.

#### 4.1.4 Computers

- Computer displays are now icon-based and therefore customised enhanced displays are necessary for each VI child.
- Networking systems in schools, with the security systems that are essential to all pupils, make it very difficult for the VI children to access any computer in school but still have a customised display.
- If the child has an individual laptop, this has to be transported round school and they may not be permitted to plug it into the network.

- The VI child may have specialised software, e.g. "Jaws" speech output program, but class teachers are not usually expert in its use.

4.1.5 Forward planning

- Teachers must have all materials ready ahead of the lesson.
- Exams and tests must be scrutinised for necessary adaptations and prepared in time, e.g. in maths, if papers are enlarged, a scale drawing will appear out of scale. 3D diagrams and timetables are not always easily accessible to children with VI.

4.1.6 Independent mobility

- Depending on the severity of sight loss and the presence of other limiting factors, a VI child may need help with movement around the class and the school.
- Lessons on independent mobility and orientation may be necessary.

4.1.7 Access to specific subjects

- Physical Education (PE): Many PE lessons, concerned with hand/eye co-ordination or speed, must be adapted for the VI child. Most children can participate in the 'skills' part of, for example, a basketball lesson, but cannot take part in the team game.

  An equally challenging and satisfying programme must be devised for the VI child, incorporating more individual skills, fitness and stamina training.

- Practical subjects: Home Economics, Craft, Design and Technology (CDT), Science: Generally a classroom assistant or second teacher is required to maintain safety standards for the VI pupil and classmates. Adaptations to the CDT and science curriculum are necessary to allow acceptable substitutes for, say, graphic communication and titration skills respectively.

- Specialist Curriculum: The child with a visual impairment may require individual tuition, from a specialist teacher of visually impaired, to enable them to acquire the following skills, some of which children would normally gain incidentally, and some to support the 'additional VI curriculum':
  - to learn to touch-type;
  - to learn to operate recommended specialist technology;
  - to catch up with class subjects;
  - to learn independent mobility skills within and beyond school;
  - daily living skills and personal and social development;
  - for personal support.

- The learning outcomes that the visually impaired pupil is expected to achieve must be addressed separately for some practical subjects.

In order for all pupils with VI to access the full curriculum it is important that all the above factors are taken into consideration and that various strategies are utilised in order to overcome any barriers.

## SECTION 5: THE INFLUENCE OF INCLUSIVE METHODS AND SPECIALIST TECHNOLOGY IN THE CLASSROOM

**5.** The introduction of specialist technology has influenced the methods of teaching employed to enable the VI pupils to access a full curriculum to their optimum ability. A range of specialist equipment is now available to these pupils. The effect of this project has been to make a significant contribution to the social inclusion of the VI pupils. The funding of this project allowed an enhanced transition period, which provided the opportunity for additional staff training and pupil awareness of visual impairment. However several key questions need to be asked. They are as follows:

- How have the methods and the introduction of specialist technology been used to develop an ethos of collaboration between schools, parents and the education authority?
- In particular, we need to know what has been the specific use of the intranet to make curricular resources available, via individualised access technology, to the visually impaired pupils?
- Has participation in the curriculum by children with visual impairment been increased by the introduction of specific strategies and specialist equipment?
- What evidence is there to demonstrate the following?

    (i) An increase in the extent to which pupils can participate in the curriculum.

    (ii) An improvement in the physical environment of the school or schools to make them more accessible.

    (iii) Improved communication of school information to pupils, and, in particular, provision of information to pupils with disabilities in alternative forms, both within a reasonable

> time, taking into account the pupils' needs and any preferences that they or their parents express. (Scottish Executive Guidance Circular 3/2002: 7pt12).

One of the wider interests within this evaluation was the consideration of how the project allows for generalisations to be made with respect to the inclusion of visually impaired pupils within Scotland as a whole. Included in this wider interest was a focus on the transition between primary and secondary education.

## 5.1 Methodology

The methods of data gathering included classroom observations, interviews with pupils, parents, teachers and other local authority employees. Early on in the evaluation of this project, the evaluation team focused on documentary data that detailed the project itself. In particular the local context was addressed, with reference to the Local Authority's Accessibility Strategy and the inclusion of visually impaired pupils was discussed. The research, therefore, is substantively qualitative in character:

- Two members of the evaluation team observed the targeted pupils. These observations focused on the use of specialist support technology by the pupils and by the staff with responsibility for supporting them and on the effect this had on the physical and technical environment of the classroom.
- Semi-structured interviews were arranged with staff in the secondary school and three of its feeder primaries. The interviews in schools were conducted face-to-face by two members of the evaluation team in the secondary school and two of the primaries.

Interviews concerning the third primary school were conducted via telephone.

The main purpose of these interviews was to gauge the impact the project has had on those staff, their relationships with the pupils and the extent to which the staff feel part of, and committed to the support network in place for the visually impaired pupils.

Those interviewed were also questioned about key aspects of visual impairment awareness, supporting access to the curriculum through technology and the effectiveness of these on classroom practice.

- Brief semi-structured interviews were held with the visually impaired pupils themselves to collect data on their experiences of learning supported by access technology at home and school, and to gain an insight into how successfully they are included in mainstream education. A small sample of pupils from the secondary school were interviewed to gain an indication of the attitude of other pupils and how they perceive the impact of the project and on relationships within the school.
- Interviews were held with the parents of the visually impaired pupils to establish the extent of the impact the project has made on school and home learning.
- In addition to this an evaluation team member was able to attend the Scottish Education and Teaching with Technology (SETT) conference where the QTVI and the ICT Support Teacher for Additional Needs hosted a presentation on this project.

## 5.2 Introducing Specialist Technology into Teaching and Learning

SBC has a commitment to integration/inclusion as a key part of its education strategy (see Section 2). It is a key policy of SBC to ensure that when possible children experience education with their peers in a mainstream setting. With this in mind, it should be noted that SBC has already established systems, skills and resources for the inclusion of pupils with additional support needs in mainstream schools.

SBC Inclusion Policy includes children with visual impairment, no matter what the severity of their impairment. These policies together with the fact that specialist technology has become more readily available, cheaper and more reliable are the two main factors, which drove the development of this project.

The creative and sensitive application of appropriate technology is a critical factor in enabling students with additional support needs to be included in schools and community. Access technology can provide physical support and facilitate understanding and engagement with knowledge and people. The evaluation team has considered what specific Access technology is being offered, why was it chosen and to what extent is it being used by the pupils, and by their teachers**.**

### 5.2.1 Equipment

The evaluation team were informed that the pupils who had a range of ocular and cerebral eye conditions had access to the following range of equipment.

Various small hand held magnifiers.

Computers and laptop for all literacy and access to the curriculum.

Plextalk Daisy Player and Easereader software player.

ScannaR reading machine.

Olympia electronic magnifier.

Videolight magnifier.

Language master talking dictionary.

Large print books from the Royal National Institute for the Blind and Customeyes.

Audio books.

Sentry close circuit television (CCTV) and Flat-screen computer.

Zychem fuser for tactile pictures.

Talking calculator.

Perkins Brailler.

Duxbury Braille Transcription Software and Embosser.

## 5.3 Interviews and Observations

The interviews and observations carried out by the evaluation team were designed to answer the following queries:

5.3.1 Inclusion and equality: What particular social inclusion strategies have been introduced specifically to aid the inclusion of these pupils with a visual impairment?

Most teachers have made comment to the effect that this project has made a significant contribution to the social inclusion of these pupils within the school environment. However, many were of the opinion that recent legislation has also influenced the school environment viz. (e.g. The Education (Disability Strategies and Pupils' Educational Records) (Scotland) Act 2002 requires local authorities to improve, over time, access to education for pupils and prospective pupils with disabilities.).

The secondary school senior management team have approached the project with enthusiasm and encouraged a very positive attitude towards inclusion. This is reflected in the support they have given by implementing an inclusiveness approach through training and development offered to all staff. The FLaT funding enabled supply cover to be purchased to allow the staff to attend a half day course on Visual Awareness Raising. This helped to establish the process of including children with a visual impairment in mainstream secondary.

5.3.2 Transition Planning: Visual Impairment: staff training and pupil awareness

The QTVI has confirmed that the high priority given to staff training raised the profile of the project. She delivered in-service training to staff in four groups on visual impairment awareness raising. The QTVI approached this training by asking the teachers to lead by example. It was a deliberate intention to include these pupils in a low key manner in class, to respect the children's wishes. In May 2003 teachers were given information on raising awareness of visual impairment, and the importance of early preparation of curricular material. Teachers were asked to complete a questionnaire regarding particular concerns over VI pupils studying their subject.

The questionnaires were evaluated and subsequent meetings were arranged with subject principal teachers to discuss the concerns raised. In May 2004 teachers were given specific information about the VI pupils who would be in school at the start of the new term, and about specialist technology that was to be introduced as well as the use of the intranet. The QTVI prepared pupils in the other feeder primaries by delivering training and raising

awareness to pupils before they transferred to secondary education.

VI Awareness Training for pupils in the primary and secondary was enhanced by the creation of 'Topic Boxes'. These Topic Boxes consisted of simulation glasses, books and videos about VI, posters and leaflets, and aids such as long canes and magnifiers. (See appendix 4)

The QTVI delivered awareness training to the primary teachers. This was delivered within the 'citizenship' aspect of the curriculum. Secondary pupils received awareness training from guidance staff in PSD classes.

The ANAs who work with the VI pupils also received intensive training. Two of the ANAs have undertaken the RNIB course for education support workers. In addition to this the QTVI delivered training to them in May and August 2004. One ANA has completed part of the SSC Braille competency certificate. One teacher commented that the additional liaison between school staff, the QTVI and ICT Support teacher for Additional Needs was invaluable. FLaT funding enabled this to happen.

A few members of staff, mainly principal teachers were able to research the provision offered to visually impaired pupils in other areas and to research the technology in use for VI pupils within mainstream settings. The visits were to Uddingston Grammar, Darnley Primary School and the St Giles Centre in Edinburgh.

5.3.3 Adaptation and transcription of learning materials

The employment of a transcriber has played a significant role in the success of the project; this is discussed later in the report.

5.3.4 The School Environment: signage

General Signage in school has been improved. Signs around the school have been enlarged and repositioned to allow pupils in wheelchairs to read them. The science department has introduced an enlarged labelling system. This is beneficial for all pupils.

5.3.5 Social considerations

Class lists for the children transferring from primary to secondary were re-arranged to accommodate Pupil B to ensure Pupil B was with children familiar from primary school. One teacher, of a practical subject commented that she (the teacher) does not like other adults in the class. (The teacher was referring to Additional Needs Assistants (ANAs).) This particular teacher has introduced a 'Buddy System' in class where a sixth year pupil is paired up with any first year pupil who requires help. She aims to encourage natural friendships within the class. This opinion was very much in the minority and in general staff have developed positive relationships with the pupils, parents, teachers and additional needs assistants involved directly in this project.

## 5.4 What are the outcomes of these strategies on, for example, the pupils' friendships, the physical classroom environment, exam arrangements, and transition arrangements?

5.4.1 Technology

Several members of staff reported that not only has the equipment benefited Pupil A, but other pupils too. Evidence would

suggest that the use of specialist equipment has helped to alleviate initial fears some staff had about teaching a pupil with a significant visual impairment. One teacher was of the opinion that Pupil A is the type of pupil "who would stumble through any how." However, he is in no doubt that the provision of specialist equipment; support workers etc. enable Pupil A to access the curriculum to optimum ability. Pupil A is able to access the intranet, text materials etc. with independence. It should be noted that this opinion was not universal.

One teacher is of the opinion that although Pupil B is included physically within the classroom, Pupil B has very little independence and requires a reader and scribe in class. This particular teacher thinks that Pupil B finds technology difficult, mainly due, not to a visual impairment, but to difficulties with muscle control. The evaluation team is of the opinion that, although to a certain extent this is true, Pupil B is still more included with the equipment than without it. The equipment allows Pupil B to have an accurate record of work for homework, revision and consolidation of classwork.

### 5.4.2 Physical access

Careful consideration also has to be given to the layout of the classroom, and the most appropriate site for equipment for ease of movement, safety and access. This is especially significant when a wheel chair user is involved. The librarian said that when the VI pupils come into the library he needs to think ahead. This has enhanced his practice and encouraged him to plan accordingly to accommodate them.

A teacher of social subjects said that in her very small classroom, one of the VI pupils who is a wheelchair user has to be placed just inside the door. This pupil also often has to leave the room early and frequently arrives late because of additional support needs that must be addressed.

Another teacher, who was concerned that this pupil was in the classroom, but only at the edge of the room, on the periphery of learning and isolated from peers rearranged the layout of her classroom to be inclusive. The tables and seating arrangements were altered to include this pupil in the class ensuring that the pupil was not isolated, as previously when the pupil and an ANA sat separately within the classroom.

Pupil A requires a double space in the classroom to accommodate additional equipment and an additional seating space for an additional needs assistant.

### 5.4.3 Social inclusion

Pupil A has a group of friends. Members of staff have remarked that the two pupils in the secondary are very different, with different needs and personalities. One principal teacher commented that while one pupil is an able 'flagship' pupil, who is articulate and able to give opinions the other pupil has other physical needs as well. Another teacher was of the opinion that Pupil B interacts well within a small group of pupils but tires very easily and gradually becomes more fatigued as the day progresses. An ANA reports that Pupil B is 'part of the gang' in the playground, but this rapport is not reflected in class.

5.4.4 Assessment

The Code of Practice, Additional Support for Learning Act 2005 states that *"Assessment is a dynamic process. As a result it should not be divorced from other aspects of the child's life either at school, home or community. It will usually include discussion with parents and professionals involved with the child. . . It should build on other assessment information already available."*

A few of the teachers interviewed spoke about their concerns regarding the need for special examination arrangements for these pupils. One teacher felt that assessment was a major concern especially for Pupil B where time is a significant factor. Pupil B has difficulty using equipment and is able to give responses verbally, but this is very slow and tiring for the pupil.

## 5.5 How is the network (between primary and secondary staff) monitored and fostered?

5.5.1 Transition planning

Both primary and secondary staff interviewed spoke very highly of the transition arrangements for the pupils from primary to secondary education.

It is evident that the QTVI and the ICT Support teacher for Additional Needs provided a high level of support and expertise to the schools during this period. It is noted in The Beattie Report Summary (The Vision (2:14) that among other requirements for the realisation of an Inclusiveness approach is:

> *"an assessment process which allows time and care to be given to identifying all the learning and support needs of*

*the young person and their skills, abilities and aspirations. This assessment process should be shared, and contributed to, both by the young person and their parents/carers and by all agencies who have knowledge and understanding of the individual."*

Lacey (1998) also states that an effective strategy for encouraging collaborative teamwork should involve the provision of time for collaborative meetings and classroom visits by team members. Lacey's opinion is that "Working collaboratively cannot be achieved instantly. It needs time and resources for pay-off in the future."

The QTVI stated in an interview that they considered "the network support fostered between primary and secondary had ensured that the VI pupils experienced a 'good' transition". Secondary teachers were able to visit the primary and additional visits were arranged for Pupil B and a parent to visit the secondary. An occupational therapist also visited the High School. The ANA from the secondary school was able to attend the primary school to shadow and observe the ANA in the primary carry out physiotherapy routines etc.

Pupil A's guidance teacher recalled that the In-Service Training (INSET) provision had been well-prepared and that she was introduced to suggested strategies, which could be used effectively with Pupil A, during the transition period before Pupil A actually appeared in class.

Pupil A's secondary school maths teacher had also been able to visit Pupil A while at primary school. Conversely, Pupil A's primary

teacher said she was unaware of any new networking facility between primary and secondary and that some secondary staff had made a few visits to the primary. On a positive note she did state that networking was fostered at review meetings.

A teacher of practical subjects also spoke about the excellent training for Pupil A but that for Pupil B "Have not got it right for Pupil B."

One principal teacher said that without FLaT funding it would not have been possible to have had monthly transfer review meetings. FLaT funding enabled the cost of supply cover to be met. Without this the transition meetings for pupils with additional support needs would have been held much less frequently.

Many staff have commented upon the in-service days, which were provided on 'Visual Impairment Awareness Raising' including the experiential learning tasks they were asked to complete while they were wearing glasses that simulate various eye conditions.

A teacher of modern languages said that, "the training they received on the INSET day was very well prepared and received. It makes you think . . . and it should be available to all new staff along with follow-up days for existing staff." This view was repeated by other staff, including an ANA who thought that the training during the transition period was initially very good but that training has not been ongoing. However, a considerable number of staff remarked that after the initial training period that they learned "on the hoof", "just pick it up as you go along". Although, the QTVI currently spends one day a week in school

making herself available for support and training, few class teachers are aware of this.

5.5.2 What have been the professional advantages/disadvantages perceived by teachers?

Initial comments from teachers and others, who are involved with the two VI pupils at secondary school, indicate that staff perceive that the inclusion of the VI pupils offers more advantages than disadvantages to their professionalism. A common statement was that "it (having the VI pupils in their class) makes you think ahead." "Staff need to think in advance: This has a knock on effect and helps other pupils." A teacher of social subjects said that it had increased his knowledge of children with visual impairment and helped him to keep abreast of "what is happening in schools." Staff have been encouraged to visit other establishments, which has also enhanced professional development.

The technology can also be used to augment the learning of other pupils. One obvious example of good practice was evident in subjects that rely on video to deliver important aspects of the curriculum. A trial has been made of converting existing recorded broadcasts for pupils to view on laptops or at home. In a geography lesson pupils were able to view videos projected onto whiteboards as part of class lesson allowing totally inclusive practice because Pupil B accessed this at the same time on the laptop. Previously Pupil B would have been required to view these videos separately, either before or after the lesson. However, now that the original videos have been converted on to DVDs Pupil B is now able to watch the lessons simultaneously with the class. Pupil B uses the laptop screen while the class look at the white

board. This teacher was initially extremely anxious about having visually impaired pupils included in the class. However, during the interview it was revealed that this teacher had requested that Pupil A and Pupil B were included in their classes for the following session as they wished to develop the skills and strategies employed to adapt their teaching methods. Modern language teachers were in the process of adapting a very visually complex programme for pupils with visual impairment using a similar strategy.

5.5.3 What is the level of VI Awareness among teachers in the primary and secondary schools, and among peers?

The level of VI Awareness is significant among staff who were able to attend the in-service days provided during the transition period. New staff and staff who were absent during the INSET days have not had the opportunity to complete formal training. However, the evaluation team have noted through observation and discussion with teachers that they do in fact have the opportunity for liaison with the QTVI, who offers ongoing support and training.

A member of the janitorial staff was fully aware of Pupil A and Pupil B and their needs. This is further evidence of the whole school community being involved in the inclusion policy and having their opinion valued. This member of the ancillary staff was involved in the repositioning of signage within the school before the Pupils transferred to the school and had also been given the opportunity to meet Pupil A who had visited the school during the transition period.

The QTVI had delivered training to the Primary 7 classes within the secondary school's feeder primaries.

Interviews were conducted with four secondary pupils who are at the same stage as the VI pupils, who had been involved in the VI training at their primary school. All of the pupils recalled the exercises they did involving simulation of visual impairment. They all felt that the support of the ANA was essential to enable the progress of Pupil A and Pupil B to continue in class. However, the pupils being interviewed did not feel totally at ease in their interaction with Pupil B in the playground because the ANA was nearby. One pupil remarked it would be "fairer" if Pupil B could have friends at the same table at lunchtime. (A table is set aside at lunchtime for pupils who may require assistance (see Section 6).)

A group of senior pupils were also interviewed. They were not so aware of the VI pupils. Indeed they had not been aware that Pupil B had a visual impairment before they were interviewed by a member of the evaluation team. The pupils had assumed that Pupil B had assistance because of the other difficulties associated with cerebral palsy. This group of pupils found Pupil A totally unremarkable as Pupil A moved around school with friends.

5.5.4 The role of the Additional Needs Assistants (ANAs)

Disadvantages which have been drawn to the attention of the evaluation team have been few. Nevertheless, a major concern expressed by several members of staff is the significant role the ANAs have in ensuring the system employed to include the VI pupils runs smoothly. "The current system requires a lot from the additional support assistants." This statement was made by a principal teacher.

The evaluation team have observed that the ANAs do require many skills, which are not insignificant when working with these pupils.

- In addition to being aware of the implications of the pupils' visual impairments both within, and without the classroom, the ANAs also need to address the significant physical needs of Pupil B, which involves knowledge of lifting and handling techniques.
- The ANAs are also responsible for transporting materials and equipment between classes for Pupil A and Pupil B. A rucksack on wheels is presently used to move material between classes. This together with demands of Pupil B's physical needs can make their role physically demanding too.
- The ANAs are required to use the technological equipment and its associated software competently. This requires ongoing training and acquiring of new skills. New staff, employed to work with these pupils must have the relevant skills required to meet their needs.

One teacher said that he felt "left out of the loop". In making this remark he was referring to the very high level of technological skills the ANAs demonstrate in setting up the equipment for Pupil A and in using the equipment to reformat and adapt curricular materials. Significantly, none of the staff interviewed in the primary schools described any professional disadvantages, which they could attribute to being involved in this project.

## 5.6 Framework for Learning

5.6.1 What, if any, has been the effect of the specific tactics of inclusion (of the VI pupils within the mainstream secondary setting) on teaching styles?

A teacher of social subjects had altered her teaching style to include the use of the white board with the whole class to present lessons. After an anxious start this is working well. Initially, she thought that the use of the technological equipment used to enable Pupil B to access the curriculum was "too ambitious". Previous course booklets were not used as the technology was not available and the support worker was not able to use it effectively. (One of Pupil A's teachers also commented upon the initial teething problems with the technological equipment.) During the evaluation team's visiting period Pupil B's answers were either typed or written into Pupil B's jotter. This was dependent upon which ANA was supporting Pupil B. This teacher felt that if a particular ANA is absent, then the whole system falls apart.

An ANA who has a vast amount of experience in supporting pupils with additional support needs felt that some teachers have had to change their style of teaching to accommodate the VI pupils in their classes. If teachers use the blackboard 'a lot' then the ANA dictates details of the blackboard content to Pupil A. However, this can be difficult especially if the blackboard is full and the content is not written in a systematic way. On the other hand, many teachers are excellent (e.g. Pupil A's Maths teacher who thinks ahead and adapts materials for Pupil A in advance.)

Generally, teachers working with Pupil B perceived that they have had to change their teaching style to include more listening,

question and answer sessions and to demonstrate greater patience when working individually with Pupil B. Those who work with Pupil A commented that Pupil A gets involved in class discussions, which makes deliberate intervention unnecessary.

5.6.2 How have teachers developed strategies which take account of the diverse requirements to provide all the pupils with access to the curriculum?

Pupil A's primary teacher had felt a need to limit the amount of blackboard material. The teacher also had to consider the amount of preparation and adaptation to worksheets which may be necessary before she used them.

Pupil C's teacher, however, stated that blackboard materials were now written in a systematic way, mainly in columns, which benefits all pupils.

5.6.3 What factors (introduced by the specific strategies for the inclusion of the VI pupils) limit/support the approaches that the teachers might be keen to introduce?

A teacher working with Pupil B said that he now uses the projector as a tool. Modern Language teachers are also in the process of introducing this strategy.

5.6.4 What specific knowledge and skills do the teachers believe are promoted by the inclusion of the VI pupils within the mainstream classroom – for all pupils, and the VI pupils in particular?

The materials are suitable for use by other pupils too. Although the evaluation team has no first hand evidence of the specific knowledge and skills being used with dyslexic pupils a member of ancillary staff emphasised that materials had indeed been used

notably by some dyslexic pupils. Within the library, a video magnifier has been positioned centrally to allow any pupils in library teaching groups to use it. In particular some pupils who have reading difficulties enjoy the facility on the video magnifier which allows the reader to limit the amount of visible text.

## 5.7 Learning for Life

5.7.1 What specific access technology is being offered, why was it chosen, and to what extent is it being used by the pupils, and by their teachers?

Pupil B had been introduced to a computer in Primary 1, long before FLaT funding was available. Pupil B currently uses a laptop which other pupils think "is cool". A ScannaR, which has a synthesised voice and allows texts to be saved on to disc has been offered to assist with long passages of text but as everyone involved in the planning process for Pupil B was not in favour of this it has not been utilised.

The ANA who worked with Pupil B at primary had suggested Dragon Speech activated software but the ICT Support teacher for additional needs did not think this would be suitable because of Pupil B's slow speech.

5.7.2 How competent and confident are the pupils and their teachers in using this technology?

Pupil A and Pupil C are extremely competent at using the equipment provided by FLaT funding. Both access their equipment independently and it is evident they have developed a range of ICT skills to use their assistive technology to access the curriculum and to record their work. They have been involved in selecting

appropriate equipment from an early stage of this project, using video magnifiers, hand held magnifiers and existing software facilities to enlarge text using key shortcuts. Both of these pupils had been introduced to the importance of touch typing skills previously. This meant that they are able to find their way around a keyboard with ease and they are competent typists. Pupil C used additional equipment to access printed material and preferred to use ordinary print material with a CCTV in near mode to magnify it. Pupil B has more difficulty using the equipment and needs assistance to access it.

It must be emphasised that the VI pupils are members of mainstream classes and there has to be sensitivity in the use of assistive technology. An example of this is evident with regards to Pupil C's attitude to the Braille embossing equipment which the pupil refuses to use despite the fact it is likely to be needed if the eye condition deteriorates.

Few teachers appeared confident in the use of the equipment and most regarded it to be the responsibility of either the pupil or the ANA. A small number of teachers were more confident. In particular the English department have employed the technology provided to ensure that the novels for each VI pupil are available. Large print versions are available for any pupils who might need it, as are MP3s of English novels - either from commercial tapes or else synthesised voice made from electronic tape.

5.7.3 To what extent, if at all, is access to this technology supported (through the school) within the home environment of the child – for example to aid of homework activity?

The core curriculum materials are available on the intranet and internet, which allows the pupils and their parents to access the curriculum and homework materials. Pupil A uses a memory stick to continue class work at home and to produce homework material in school. Pupil A also uses this to have a record of work which can be looked over at home. Pupil A does this very successfully. Pupil B uses a computer at home to complete homework and to consolidate work done in class. One of Pupil B's parents has a high level of input to this.

5.7.4 In which ways does technology support pupil independence and equality (e.g. their achievement and participation)?

It is evident that both Pupil A and Pupil C use the specialist equipment and the training they have been given to enable them to use the equipment as a tool for further learning and attainment. These pupils are able to work independently and it is clear that they will be able to use many of the skills as a strong foundation for independent, adult learning and in future careers. At the time of writing this is not the case for Pupil B who has additional motor difficulties which limits independent use of the specialist technology and IT equipment.

SECTION 6: THE PERSPECTIVES OF PUPILS AND SCHOOL STAFF

## 6. Overview of Section

### Primary School

Informal interviews were conducted with staff of the primary schools attended by the individual children, one of whom (Pupil C) was still in Primary 7. The broad aim of the questions was to determine:

- the choice of equipment used;
- the skill development of the children;
- the management of the child with a visual impairment in mainstream i.e. how staff related to the pupil and the technology;
- the benefits to the child with a visual impairment and to the other children.

We found that parents and children were involved in deliberations about which equipment to purchase and that ease of use was the main factor.

All those interviewed assumed that responsibility for maintenance, repair and replacement of items of equipment lay with the ICT teacher, support for learning. There was uncertainty about 'ownership' of the IT items.

It was clear that the ANAs and the primary school teachers of Pupil A and Pupil C thought carefully about how to encourage the children to reach their potential, and adapted methods and materials appropriately. The class teachers in the two schools felt that adaptation to teaching method and materials had been of benefit to the class in general.

Teachers and ANAs had greatly increased their knowledge and skills, in such a way that they would then be able to apply many of the skills to the

support of children in their classes currently and in the future. Pupil A and Pupil C were undoubtedly using the technology and training provided within the primary school context as tools to further their learning and attainment.

The ANA still played a crucial role in supporting the child's learning. It was very evident that the VI pupils were gaining skills and 'can do' attitudes which would be a strong foundation for independent learning in their future school and adult careers. The attitudes of the staff were such that the children with a visual impairment would have had full access to the curriculum even without the aid of the technology. The technology, however, introduces skills which allow the child greater freedom increases their standing amongst their peers and is line with IT developments throughout Scottish education.

The model illustrated in the primary schools attended by Pupil A and Pupil C should be easily replicated. The positive aspects are:

- thorough training in IT carried out by the visiting teacher of children with a visual impairment (QTVI);
- appropriate equipment;
- support by the QTVI of the staff and parents involved;
- careful analysis by the class teacher of learning situations within the classroom and the wider experience of school, followed by a willingness to adapt practice as required;
- attention to the social aspects of inclusion: using structured group activities to encourage interaction, and not leaving it to chance.

## Secondary School

The broad aim of the questions in this part of the research was to establish secondary school teachers' perceptions of the contribution made to successful inclusion by:

- Technology;
- In-school support;
- Specialist support;
- Peer group support;
- Teacher/pupil interaction;
- Other factors.

There is no doubt in most classes that the laptops are very useful: they allow greater access to the curriculum. Equipment, other than laptops, is being used discreetly by Pupil A and Pupil B as well as their ANAs. However, their use may not be evident to the subject teachers.

All the teachers were very appreciative of support from the school ANAs, and felt that the success of the children was dependent to a large extent on the work of the ANAs. There were very few occasions on which teachers could envisage the pupils managing well in class without ANA support. In practical subjects such as science and home economics, it is obligatory to have an ANA present for health and safety. Observation of the ANA working in class confirmed the different role played with each of the two pupils.

## Electronic Document Service

Approximately half of the respondents use the electronic document service provided within the school. Some of these teachers supplement the service by producing their own materials on paper and on the

intranet. Most class work is available on the intranet. About half of the required homework exercises are available on the intranet.

The secondary school subject teachers supply learning materials to the VI transfer assistant at the beginning of the session and thereafter discuss with the ANA any additional texts and diagrams that are needed. Only two teachers mentioned speaking face-to-face with the VI transfer assistant who does the adaptation and transcription. The production of materials by the VI transfer assistant is of a very high quality, but depends on forward planning by teachers to ensure that sufficient time is allowed. The transfer assistant is not aware of her materials already being used by children other than those with a visual impairment, but was recently pleased to be asked to provide some enhanced sheets specifically for a pupil with different needs.

**Inclusion within the Secondary School**

It was felt that both pupils (Pupil A and Pupil B) are completely part of the class. Of Pupil A it was stated that they are "no less involved than any other pupil in the school." Pupil B is "well accepted and popular. . . . difficulties are not seen as being due to a visual impairment."

**VI Awareness**

Four pupils who were interviewed from Pupil A and Pupil B's secondary school classes had been given awareness training at their own primary feeder school by the QTVI, the class teacher or the school nurse. The pupils also felt that assistance from an ANA was essential. They said that unless they were in class with Pupil A or Pupil B they would not notice them around the school particularly. The secondary school janitor was closely involved with the planning for transition of the pupils with a visual

impairment, and had stayed in personal contact with them. There was no evidence that canteen staff had been briefed about the needs of the children.

## 6.1 Perspectives of Pupils and Staff within Primary Schools

### 6.1.1 Research questions (See Appendix 6a)

The broad aim was to determine:

- the choice of equipment used;
- the skill development of the children;
- the management of the child with visual impairment in mainstream i.e. how staff related to the pupil and the technology;
- benefits to the child with visual impairment and to the other children.

### 6.1.2 Methods

Contact was made with the three primary schools in which there was a Primary 7 child with visual impairment, supported by the Borders Project. Two schools were visited and interviews were carried out with staff, and the third set of interviews was conducted by telephone.

- For Pupil A, telephone conversation with their Primary 7 class teacher and ANA.
- For Pupil B face-to-face conversation with the ANA who had supported Pupil B throughout primary school. The class teacher had moved school and was no longer available.
- For Pupil C face-to-face conversation with the ANA and with the class teacher who was also the headteacher.

### 6.1.3 Technology

Choice of equipment

(a) For Pupil A and Pupil C the primary school staff were aware that the pupils and parents were involved in the decision on which equipment should be purchased. The ANA for Pupil B was unsure, but thought the parents were not involved in the decision. Parents had been invited to a demonstration of possible pieces of equipment. Information to staff in Pupil B's school was supplied in the form of leaflets.

(b) The principal consideration was ease of use. "The equipment must never be an obstacle [. . . to teaching or learning]" was a statement by a headteacher. None of those interviewed quoted price as a significant factor.

(c) In Pupil C's primary school there was a computer station for the production of materials in Braille. Pupil C was continuing with Braille lessons, which had been begun in Pupil C's previous region because Pupil C's eye condition is degenerative and print may not always be accessible.

Maintenance and repair

All those interviewed within the primary sector assumed that responsibility for maintenance, repair and replacement of items of equipment lay with the ICT teacher, support for learning. It was clear in all their minds that the equipment was bought using FLaT funds but it was not clear whether the items were for the sole use of the individual throughout school or might be transferred to another. The headteacher hoped that when Pupil C went to school outside the Borders Region, Pupil C's equipment would remain in school for another child with visual impairment.

6.1.4 The development of IT skills

(a) Pupil B has additional support needs, other than visual impairment, which limits capacity for independent operation of IT equipment. When Pupil B was in Primary 7 the dedicated ANA set up and operated the computer enabling Pupil B to find, open and save files. Pupil B was given a laptop to use at Easter of Primary 7.

(b) In Primary 7 Pupil A and Pupil C were already skilled in the use of their equipment. The QTVI tutored them in the use of each item.

6.1.5 Issues of management of the Primary 7 class inclusive of a child with a visual impairment

It was clear that the ANAs and teachers of Pupil A and Pupil C thought carefully about how to encourage the children to reach their potential. Pupil C's teacher adapted several aspects of methodology, such as:

- using a whiteboard instead of a blackboard, and then using the left hand side only, all to enable Pupil C to view it more accurately with a "Sentry" Video magnifier.
- organising more group activities and practical tasks to encourage interaction and to cut down on formal reading and writing tasks.

Pupil A is academically able and the teacher used Pupil A's typing and computer skills to further group activity. Pupil A's natural pace of work meant that it was not necessary to reduce the tasks given.

6.1.6 Benefits to classmates

(a) The headteacher in Pupil C's school felt that the adaptation to teaching method had been of benefit to the class in general.

The teacher also used Pupil C's Video magnifier to make it easier for others to see maps and other small or detailed items.

(b) The teacher of Pupil A reported that materials enhanced for Pupil A were used to great benefit by the other children. Pupil A's skill in producing charts and wordprocessed text was sought after by children working on projects together.

6.1.7 Elements of good practice

Pupil A and Pupil C were undoubtedly using the technology and training provided as tools to further their learning and attainment. However, the ANA still played a crucial role in supporting the child's learning. Pupil B was dependent on the ANA for all learning in the classroom.

Teachers and ANAs had greatly increased their knowledge and skills, in such a way that they would then be able to apply many of the skills to the support of children in their classes currently and in the future.

It was very evident that the VI Pupils were gaining skills and 'can do' attitudes which would be a strong foundation for independent learning in their future school and adult careers.

The attitudes of the staff were such that the children with a visual impairment would have had full access to the curriculum even without the aid of the technology. The technology, however, introduces skills which allow the child greater freedom, increases their standing amongst their peers and is in line with IT developments throughout Scottish education.

6.1.8 Elements to include in future development

The model illustrated in the primary schools attended by Pupil A and Pupil C should be easily replicated. The positive aspects are:

- thorough training in IT carried out by the visiting teacher of children with a visual impairment (QTVI);
- appropriate equipment;
- support by the QTVI of the staff and parents involved;
- careful analysis by the class teacher of learning situations within the classroom and the wider experience of school, followed by a willingness to adapt practice as required;
- attention to the social aspects of inclusion: using structured group activities to encourage interaction, and not leaving it to chance.

## 6.2 Perspectives of Pupils and staff within Secondary School

This section relates to Pupil A and Pupil B only.

6.2.1 Research Questions and Methodology

Teachers:

Questions (See Appendix 6b)

The broad aim of the questions in this part of the research was to establish teachers' perceptions of the contribution made to successful inclusion by:

- Technology;
- In-school support;
- Specialist support;
- Peer group support;
- Teacher/pupil interaction;
- Other factors;
- Methods.

6.2.2 A questionnaire compiled by the evaluation team was distributed within the High School to teachers and additional support

assistants. 54 were distributed, 30 returned. Not all respondents completed the whole questionnaire.

(a) Technology:

There is no doubt in most classes that the laptops are very useful: they allow greater access to the curriculum. Both students use the laptop for reading worksheets, answering questions and for extended writing, but Pupil A more than Pupil B. Pupil A utilises the laptop as the principal communication tool. Pupil A is seen as competent in independent use of IT. Pupil B is observed to be able to read from the laptop if given time, but needs help with the motor aspects of setting up and putting away. The use of equipment other than laptops is not evident to teachers. Some questions were raised over the best possible equipment for Pupil B. No alternatives were suggested, but the two teachers concerned simply queried whether the correct choice of equipment had been made. However, by far the majority reported that the equipment issued to Pupil A and Pupil B was very useful.

(b) In-School Support:

(i) Additional Needs Assistants (ANAs)

All the teachers were very appreciative of support from the school ANAs, and felt that the success of the children was dependent to a large extent on the work of the ANAs. There were very few occasions on which teachers could envisage the pupils managing well in class without ANA support. In practical subjects such as science and home economics, it is normal practice to have an ANA present for health and safety.

The ANA helps with every function of the laptop, including setting up and finding files, but Pupil B requires much less to be read out. Pupil A is generally

able to type in their own answers but may occasionally be helped with this if there are too many demands on Pupil B's time. Observation of the ANA working in class confirmed the different role played with each of the two pupils.

(ii) Electronic Document Service

Approximately half of the respondents use the electronic document service provided within the school. Some of these teachers supplement the service by producing their own materials on paper and on the intranet. Most class work is available on the intranet. About half of the required homework exercises are available on the intranet.

Teachers supply learning materials to the VI transfer assistant at the beginning of the session and thereafter discuss with the ANA any additional texts and diagrams that are needed. Only two teachers mentioned speaking face-to-face with the VI transfer assistant who does the adaptation and transcription. One teacher regularly emails materials directly to Pupil B's parent.

(c) Specialist Support:

In response to the question, "How did you learn effective methods?" only one of Pupil A's teachers and 3 of Pupil B's teachers said that information was from the specialist teacher for children with a visual impairment. This low response can possibly be attributed to the fact that Pupil A needs very little special consideration, while Pupil B has a high level of support in class because of other difficulties, and the visual impairment is taken into consideration by the classroom assistants.

However, the teachers of Art and PE, who do not have ANA assistance, said that they had no need of advice from the specialist teacher, apparently assuming that such advice covered only IT and perhaps reading and writing.

(d) Peer Group Support:

It was felt that both pupils are completely part of the class. Of Pupil A it was stated that they are "no less involved than any other pupil in the school." Pupil B is "well accepted and popular. . . .difficulties are not seen as being due to a visual impairment."

(e) Teacher/Pupil Interaction:

In answer to the question "Do you find that in your class, compared with your interaction with other pupils, you interact with the VI child more, less or just the same?" The majority of respondents said that their interaction with Pupil A was just the same, in one case saying that, because Pupil A involves herself with all class activities, extra efforts to interact are not necessary. Three said they interacted less with Pupil A than with other pupils. Four said they interacted less with Pupil B, one teacher writing that a deliberate effort was needed to interact with Pupil B. Another teacher recognised the need for a deliberate effort, and said the pupils were improving. As before, it was felt that difficulties in this area were not because of Pupil B's visual impairment.

(f) Other Factors:

"Do you feel that the other members of the class have benefited from your revised methods?" There were few responses to this question. It should perhaps have been more productive to ask this face-to-face. The responses included:

- All the children listen more.
- Lessons are now presented in a more interesting way.
- Class misbehaves more as he tries to present lessons differently.

6.2.3 Interviews with Ancillary Staff

(i) VI transfer assistant: transcription of learning materials to intranet.

Method: an informal conversation ranging round technicalities of production and the use made of the service within school.

The VI transfer assistant has a workstation in the staffroom. She is contracted to work as needed, up to two days per week. She has had training by the ICT support for learning officer, and consults him whenever necessary, but is also largely self-taught, tackling problems and investigating new methods herself.

(a) Contact with Teachers:

There is little contact with teachers or with heads of department. Most work is brought to the VI Transfer Assistant by the additional support assistants. Some liaison with teachers happens by chance when they come into the staffroom but not all teachers use the staffroom. Senior management staff are very helpful but the VI transfer assistant needs the help of the Specialist teacher (VI) or the ICT Support for Learning officer to maintain liaison with the teaching staff.

(b) Systems:

There is no apparent system for bringing work to the transfer assistant: she has neither an in-tray nor job sheets. Teachers seem to forget that the service is

available and are vague about what can be offered. The VI transfer assistant is supported by senior staff but appears to have no line manager.

(c) Effectiveness of Service:

The production of materials by the VI transfer assistant is of a very high quality, but depends on forward planning by teachers to ensure that sufficient time is allowed. Some teachers produce their own materials, unaware that the VI transfer assistant is already preparing them.

The transfer assistant is not aware of her materials already being used by children other than those with a visual impairment, but was recently pleased to be asked to provide some enhanced sheets specifically for a pupil with different needs.

(ii) The Janitor

The interview took the form of an informal discussion.

Pupil A: during the summer holidays before Pupil A entered S1, Pupil A had extra visits to the High School and was shown around by the janitor, who took the opportunity to get to know Pupil A. Full information on both children was given by the management to the janitor before they entered S1.

Signage throughout school was enhanced and the position of such signs lowered to be accessible to one of the pupils who is a wheelchair user.

The janitor observed that:

- when in the playground, Pupil A is always part of a group of two or three friends. The composition of the group changes only as much as any group;

- when Pupil B is in the playground, children cross over to be with Pupil B;
- some socially fragile children migrate towards Pupil B in the playground because of the presence nearby of an ANA.

(iii) The Canteen Supervisor

The interview took the form of an informal conversation.

The canteen supervisor was very positive about inclusion, saying, "Children with impairments are no longer a novelty but an accepted part of the crowd." She did not know about the presence of pupils with a visual impairment in the canteen. She was not sure if Pupil A and Pupil B could see either the menu or the food items on display, but had observed Pupil A buying a variety of cakes, suggesting that Pupil A can see well enough to choose from the display. Pupil A brings a sandwich; we discussed whether this might be because Pupil A is not confident about the canteen system for school meals. The canteen supervisor observed that Pupil A is part of a "happy group". Pupil B sits at a table set aside for pupils who need assistance at lunchtime. Pupil B brings own food and specialised utensils. The canteen supervisor had minimal contact with Pupil B.

6.2.4 Interviews with Pupils

Method: Permission was sought from school and parents for an interview with 6 pupils, two from the class of Pupil A, two from the class of Pupil B and two prefects. The questions were also submitted for approval. The pupils were interviewed in pairs, in an informal setting.

Aim: The aims were to obtain an impression of:

- awareness in the peer group of the effects of visual impairment;
- ethos of acceptance among the peer group of children with a visual impairment.

(i) Classmates

All four children had been given awareness training at primary school by the QTVI, the class teacher or the school nurse. Three remembered the exercises with the VI simulation spectacles. The children were impressed by the equipment Pupil A and Pupil B had, and felt it was essential. The pupils also felt that assistance from an ANA was essential.

Social interaction: The presence of an ANA was not seen as a barrier to social interaction in the classroom. However, in the playground, "People like Pupil B a lot, but when they go up to speak to Pupil B they are a bit careful about what they say." Similarly, one child felt that in the dining hall it was unfair that Pupil B had to sit at a different table, where Pupil B's ordinary friends felt a little awkward.

Pupil A was observed to join in clubs and to take part in all social activities at lunchtimes.

The boys generally "Hang about or play football" which would be difficult for Pupil B. One of Pupil B's classmates said that Pupil B could go down town at lunchtime with the others if only there was more time.

The children interviewed had never heard anybody being unpleasant to Pupil A or to Pupil B but had heard nasty comments behind their backs. One said, "But these are people who are just horrible anyway."

All the children would expect a person with visual impairment to have the same opportunities as they do themselves, but were realistic about jobs like plumbing.

It was evident that the children realised that they would not always know if a person had a visual impairment. Pupil B's classmates were not aware that Pupil B had a visual impairment at all.

(ii) Prefects

The prefects had not been given information previously about the two pupils with visual impairment. However, in this school, prefects choose to do support work in classes, and are not required to help to keep order on the corridors and in the playground. They said that unless they were in class with Pupil A or Pupil B they would not notice them particularly. "If Pupil B did not have physical difficulties Pupil B would be totally included and unremarkable." Pupil B is seen in the playground with a group of friends and an ANA nearby. Pupil A "is always in a group of friends, totally unremarkable." The prefects both said that they would expect people with all sorts of additional needs to go to university. They remarked that by university age the adolescent pressure to be the same as everybody else has waned and individual differences are more easily accepted.

SECTION 7: THE HAWICK HIGH SCHOOL PROJECT AS A MODEL FOR THE FUTURE

## 7. Examples of Good Practice

One of the aims of the evaluation project is to determine whether the model could be used elsewhere, not only in other schools of the SBC area but for other schools in Scotland that have pupils with visual impairment. As such we have identified examples of good practice which can be used within other authorities and schools.

### 7.1 Transition Planning and Awareness-raising

**Visual Impairment Awareness-raising**

Topic Boxes: Topic boxes have been put in place in the feeder primary schools for Hawick High School and within the High School itself. The QTVI varies the content of the boxes to make them age-appropriate for the pupils. There has been considerable use of the simulation glasses, the handheld magnifiers videos, specific children's picture books and stories, as well as biographies of other older pupils who are visually impaired. The topic boxes are extensively used for visual impairment awareness as well as proving a valuable resource for the teaching of "The Senses" topic in the 5-14 environmental studies curriculum. The lessons, incorporating the topic boxes, have been delivered to good effect in the primary schools by the QTVI, a school nurse, classroom teachers and guidance teachers. In Hawick High School guidance teachers have used these boxes in PSD classes, so that all pupils receive visual impairment awareness training. The topic boxes therefore, are to be considered as a valuable tool in raising awareness of visual impairment.

## 7.2 Training of Teaching and Auxiliary Staff

(i) The QTVI has developed a strong programme of visual impairment awareness, and all teachers had attended the one-hour visual impairment awareness course one year before the pupils were transferred to the high school.

(ii) In June 2004, before the two children with a visual impairment entered High School, the QTVI delivered staff training within the High School, focusing on the eye conditions specific to the two children.

Issues: staff spoke highly of the quality of the training delivered. It is clear that staff training is a very significant feature in the roll-out of this project which would have to be considered seriously in the planning of any similar project in the future, locally or nationally. The QTVI herself expressed the importance of staff training in these terms:

> *"The big thing is the training of the staff. That is absolutely vital. I don't think (the project) would work unless you have the staff on board. I think that is the most important thing. The school has to be aware that they are going to have to release staff. It is not just for staff who are getting the VI pupils which is what I have done previously in high schools. Previously, I have done training but only for the staff who are going to be getting pupils, whether the pupils are going to be in first year or second year. That is not really enough because they do fluctuate and cover for each other, and stand in for each other. You want staff who are going to be able to get them in fifth year to be able to know what is ahead. It has got to be the whole staff."*

However in saying this several issues were identified:

- Not all staff were present on the day and had no opportunity to 'catch up'.
- Not all additional needs assistants were included.
- There is no rolling programme for training new staff.
- Further in-depth training of additional needs assistants would have been beneficial.

It is also the opinion of the evaluation team that more training should be given to teachers of practical subjects such as Home Economics, PE or Art. The evaluation team found that some teachers placed more emphasis on technology, as a solution to enabling access to a full curriculum for visually impaired pupils than on adaptation to teaching method.

It was suggested that more specialist staff would be required to implement a more comprehensive training package, but the in-service training was appreciated as an introduction to visual impairment, classroom management of the pupils and, not least, an introduction to the QTVI herself, who could then be approached whenever she visited school. She said herself,

> "*We will have spent more time at Hawick High than we have done at any other high school. I think because (ICT Support Teacher for Additional Needs) and I had spent so much time there we have really raised the profile of visual impairment. They have all be given pass books that I have made about the pupils and they know who they are. They can approach us. I feel that teachers know who we are and will approach and speak. In other high schools I have been involved with - I don't know if anybody knows who I am at all. I never get questions*

*or dialogue with the teachers unless I go into the class and you can't possibly go into all the classes."*

The evaluation team found that as a whole the members of staff had a broad awareness of visual impairment, as well as strategies and solutions to enable children with a visual impairment in their class to access the curriculum fully.

### 7.3 Technology

There was clear evidence that the technology bought with FLaT funding was well used throughout the schools. It made a vital contribution to curriculum access for both pupils.

**Laptop computers**: The wireless laptops enabled both pupils to store their files for revision, and to send their school work home, which was actively encouraged. Most importantly, however, the laptops enabled both pupils to participate fully in an active classroom environment. An excellent example of the use of technology to enable participation was the adaptation of DVDs: when a DVD was shown to the entire class on an interactive whiteboard, Pupil B, who has poor distance vision, could watch the lesson on the laptop.

Although there were initially some frustrating technical problems with the laptops such as incompatibility with the already existing school intranet system, staff worked extremely hard to ensure that such difficulties were overcome. There was a very strong commitment by many members of staff to overcome a broad range of technical difficulties.

**DAISY books**: DAISY technology is being used for class texts and novels, both in school and at home. Because DAISY is still in the early stages of development, production of books can be slow which in turn

means that the child in school may not receive the DAISY book in time. Pupil C in particular loved the DAISY player. All the children will benefit more in the long term by their current introduction to DAISY technology.

**ScannaR** is a user-friendly scanning machine which reads aloud the text scanned, or enables it to be sent to a computer as a text file. It is envisaged that the ScannaR, already used independently by Pupil A and used by the ANAs for preparation of materials for all the children, will become an increasingly important tool as the pupils have to complete investigations of their own. It is kept centrally, in the library, to be accessed as necessary. The teacher, ICT Support for Learning, wrote a simplified version of the instructions, which was extremely well received. This documentation enabled not only the pupils to use the system by themselves but also encouraged other pupils and members of staff to use it as well. Such clear and accessible documentation on how to use equipment is essential.

**Braille embosser and Braille software**: was purchased for Pupil C who has a degenerative eye condition. At the time of the evaluation, Pupil C was having Braille lessons but did not yet need more than a few pages of Braille at a time, and so the IT equipment was little used. Braille was mostly produced manually using a Perkins Braille machine.

The dissemination of available equipment to parent and pupils was noted to be good. Parents were invited, and took up the opportunity to discover the available access software by attending an exhibition of equipment hosted by SBC.

Because access hardware/software is not designed with a school environment in mind, there were examples of trial and error in the purchase of equipment for the pupils. Similarly, any change in systems or

software, or any breakdown, necessitates time-consuming tasks for ICT Support Teacher for Additional Needs in reconfiguration of the wireless computers, often combined with reloading the software.

The evaluation team are of the opinion that, as a result of the technology purchased through this programme, pupils are:

- more fully included within the classroom;
- able to access a full curriculum;
- more confident in and out of school.

Teachers in Hawick High School were already using the intranet for teaching and learning. The FLaT funded equipment for the children with a visual impairment allows them to access learning materials in the same way as their peers. The extra effort which has gone into the project has in fact promoted the skills Pupil A demonstrates in the use of technology and accessing the Intranet beyond that of Pupil A's classmates. Teachers can see its value for themselves, and thus development of intranet technology within the school is encouraged.

The evaluation team fully agree with the comments made by the ICT teacher, support for learning, that they,

> "*in opting for the use of wirelessly networked laptops (in) accessing the school's intranet, (they) were developing a model of support in which the responsibility for the VI pupils would be a whole school issue, and not just the responsibility of the VI support service".*

## 7.4 VI Transfer

One of the main successes of the project is the appointment of a specific VI Transfer assistant. The person who fulfils this role produces high quality work of a consistent standard which is achieved because their skills have been developed to demonstrate an understanding of:

- the complexities of converting text files into web pages and back to text files;
- the principles and practice of adapting standard school learning materials, including text and diagrams, into an enhanced and simplified form accessible by a pupil with a visual impairment.

The materials produced by the VI transfer assistant have the potential to be used widely by other pupils with a variety of reading problems or learning difficulties, and in fact may often be welcomed for the whole class. The adaptations would be suitable for use across the region in other schools which use the same teaching materials. When the Scottish electronic document service comes into being, these Borders materials could become part of the Scottish bank of learning materials.

It is quite clear to the evaluation team that this position plays a significant role in the success of the project. This view is also shared by The QTVI.

> *"We do need somebody like [the VI Transfer Assistant]. I actually think if we hadn't found [her], and we didn't have somebody employed doing the transcription, it wouldn't have worked at all the way it has done. I almost think she is like the main player here. Just her presence there reminds everybody that they have to be looking out material. The work she has*

*done and put on the internet had benefited all the visually impaired people but it has also benefited some other pupils which is great. It has also made a lot of other teachers think 'well this would be good for (other pupils)'."*

**Matters to be addressed:**

(i) The position of the VI transfer assistant in the overall management structure of the school was unclear: she felt she did not have a definite line manager.

(ii) There was no clear protocol for delivery to and collection of materials from the VI transfer assistant.

(iii) Meeting between the class teachers and the VI transfer assistant was a matter of chance: she works in the staffroom so that she is visible to the teachers, but not all of them use the staffroom.

(iv) Currently the VI transfer assistant is employed on an ad hoc basis, which makes the position vulnerable to change and cutbacks in the future. It was clear that the VI transfer assistant does much of their own continued professional development (CPD) in the acquisition of IT skills, at home in personal time, an individual arrangement which should also be regularised for the future.

(v) This one individual plays a key role in the success of the project. The evaluation team would encourage the training of another VI transfer assistant to maintain the skills in the area.

## 7.5 Signage

General signage around Hawick High School has been adapted, enlarged and repositioned. This allows wheel chair users and visually impaired to have greater independence and mobility as they move around the building. The Science department has developed and extended this system to include an enlarged labelling system. All pupils within the

department have benefited from this system, which could be employed in other departments too.

## 7.6 Additional Needs Assistants (ANAs)

The ANAs timetabled to support the VI pupils have developed considerable skills in addition to the general skills routinely expected from such a position of employment. These include:

- Awareness of the pupils' visual impairments and the implications for the pupils' learning and access to the curriculum.
- Knowledge of lifting and handling techniques for Pupil B.
- Responsibility for transporting materials and equipment between classes and, if necessary setting up the specialist technological resources.
- Knowledge and ability to use the specialist equipment with competence.
- Ability to adapt the transcribed materials for specific pupils.
- Ongoing training and continued development of new skills to which are necessary to ensure the VI pupils are able to access the curricular materials. External qualifications which the ANAs have undertaken are the certificate of Braille Competency offered by the Scottish Sensory Centre and The RNIB's course for non-teaching staff with responsibility for supporting VI pupils.

**Matters to be addressed:**

Teachers working with these members of staff expressed concern that not only did they "feel out of the loop" due to lack of understanding of the full range of equipment given to the VI pupils and the high degree of expertise the ANAs demonstrated but if the particular ANA were to go off sick then the whole system is likely to suffer as these skills take time to

develop. ANAs who are competent in some skills are not given opportunity to develop skills in other aspects as there is no incentive for them to do this.

### 7.7 Positive Ethos

The climate of inclusion within Hawick High School is very positive and all staff demonstrated an expectation that all pupils would be fully involved in the life of the school. The evaluation team are of the opinion that this strong feeling of personal worth amongst pupils, staff and visitors to the school has aided the development of this project.

Features of good practice in developing a positive ethos included:

- Strong leadership and acceptance of this project by senior management team as part of the inclusion of pupils with additional support needs.
- Staff commitment to inclusion rather than integration.
- The school's concern for wider dimensions of support for all pupils both academically and socially.
- The opportunities given to the pupils with a visual impairment to learn in different ways.
- The involvement of the pupils in trialling equipment, allowing some degree of choice and independence in their learning.
- Well planned arrangements for initial staff training and follow-up.
- Planned opportunities during Personal and Social Education (PSE), etc. for all pupils to have an awareness of Visual Impairment and its implications.
- Good home-school links which kept parents informed and involved in the project developments.

**Matters to be addressed:**

(i) The need for sustained and effective strategies to allow training for new staff and further development of skills for those with experience of the pupils with a visual impairment.

(ii) Allocation of a keyworker among promoted staff. This person to take responsibility for the day-to-day organisation of materials and equipment and to act as liaison between class teachers and specialist VI teacher.

It is worth noting that the SBC project has had a significant positive outcome for the two principal workers. This positive outcome is demonstrated by the QTVI herself.

> *"I think (the SBC project) has increased my knowledge of what can be done and what is possible. The FLaT fund has proved it is possible and we can do this in another school in the next few years. It has increased my knowledge but overall it has opened up a whole range of possibilities that were not there before."*

SECTION 8: RECOMMENDATIONS

**8.** In addition to replication of the elements of "Good Practice" listed above, the following recommendations should be incorporated into future planning for inclusion of children with visual impairment.

## 8.1 Personnel

(a) Keyworker: It is essential to have a designated keyworker within a large school. This person should take responsibility for the day-to-day support needs of the pupil with visual impairment, including:

- overseeing the electronic document service;
- conveying questions to the visiting teacher and liaising often with her/him;
- discussing needs, as they arise, with the pupils and parents.

(b) Transcription Assistant: There should be:

- a more definite job description for the transfer assistant;
- clear outline of responsibility;
- clear line management;
- efficient system for organisation of tasks;
- continuous opportunities for teachers and the assistant to meet and discuss materials.

## 8.2 Partnership Working

When plans are being made for the support of children with complex additional support needs, it would be advisable to incorporate advice from other professionals involved with the child, such as speech and language therapists and physiotherapists.

## 8.3 Use of information Networks

Professional networks which are spreading throughout education can now be used for advice. It is helpful to extend consultation with other regions who are developing similar services.

## 8.4 Budget

A rolling budget is required to allow upgrading and repair of equipment and to avoid "just in case" spending.

## 8.5 Proof of Concept

It is recommended that the FLaT funded Borders project should be taken as "proof of the concept": access to the curriculum for all is achievable if attention is given to:

- Forward planning.
- Collaborative working.
- Realistic budget.
- Community involvement.
- Provision of appropriate technology.
- Provision of adequate staffing for support.

Finally it should be noted that the evaluation team felt that personal support from a qualified teacher is irreplaceable.

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# APPENDICES

1. Aims of the "Access to a Curriculum for All"

2. Evaluation Project: Research Aims

3. The role of the specialist teacher for children with visual impairment

4. Topic boxes: content of a sample box

5. Technology: identification and function

6. Interview Questions:

   (a) school staff: primary teachers and secondary subject teachers
   (b) classmates
   (c) prefects

7. Questionnaire for secondary school teachers and auxiliary staff

# Appendix 1

## Aims of the "Access to the Curriculum for All"

The project should:

- recognise and cater for the individual needs of pupils with a visual impairment.
- be sustainable after the end of the project and be utilisable as a model for other high schools in the SBC area.
- take advantage of recent developments in computer, school network and digital audio Technology; and
- become a model that the authority will adopt for all newly diagnosed/enrolled VI pupils.

From these general aims more specific aims of the project were evolved:

- to develop within schools an ethos of acceptance, understanding and support for pupils with visual impairment.
- to provide a wide range of approaches to allowing pupils access to the curriculum and to evaluate these solutions with the pupils.
- to develop a sustainable system of entering curricular materials on the school's intranet in such a way that the pupils could subsequently retrieve them wirelessly.

To investigate the value of these developments to other 'text impaired' pupils – especially those with reading difficulties (Hawick High School only).

Objectives of the Future Learning and Teaching programme:

- enriching young people's learning experiences;
- promoting attainment and achievement;
- tackling barriers to inclusion;
- creating a learning and teaching environment that is sensitive to individual needs.

# Appendix 2

## Evaluation Project: Research Aims

1. What particular social inclusion strategies are in place in relation to these pupils that were not there before?

2. What are the outcomes of these strategies on the pupils' friendships, the physical classroom environment, exam arrangements and transition arrangements?

3. What have been the professional advantages/disadvantages perceived by teachers?

4. What is the level of VI awareness among both teachers in the primary and secondary school and among the pupils' peers?

5. How is the new network between

   - primary and secondary staff;
   - between school and parents;
   - between schools monitored and fostered?

# Appendix 3

## The role of the specialist teacher for children with visual impairment

### The Role of the Peripatetic Teacher

The role of the Teacher for Children with a Visual Impairment demands many and varied skills, demonstrating effectiveness in:

- Evaluation.
- Teaching.
- Counselling.
- Knowledge of specialist equipment and appropriate use.
- Evaluation/assessment.
- Liaising with other services/consultancy role.
- Administration and record keeping.
- Other professional aspects.

### Evaluation

Identifying the needs of the visually impaired child from the first referral to school leaving age.

### Teaching

A knowledge of the implication of the effect of visual impairment on all aspects of development is essential.

An informed knowledge of the spectrum of provision available to visually impaired children is required.

The skills to enable visually impaired pupils to access the same breadth of curriculum offered to their peers. The teacher should be sensitive to the individual child; to his or her needs/requirements in the various educational settings.

Effectiveness in planning and implementing.

# Appendix 4

## Sample Content of Visual Impairment Awareness Raising Topic Box

### Contents that were FLaT funded

**Five boxes of Simulation glasses**: total of 50 glasses simulating various eye conditions.

**Five Hand Held magnifiers.**

**VI Awareness videos:**
- "See What I Mean" from VINE
- "What do You Do When You See A Blind Person?"

**Children's Picture Books:**
- "A Cane in her Hand"
- "Listen for the Bus – David's Story"
- "Seeing Things My Way"
- "Think about Being Blind".

**Children's Story Books:**
- "Charlie's Eye"
- "Take a Good Look".

**Biographies for Older Pupils:**
- "Being a VIP"
- "Planet of the Blind"
- "Sight Unseen"
- "Little by Little".

**From Other Sources:**

RNIB Poster of "What is Visual Impairment?"

RNIB and Guide Dogs Leaflets.

RNIB and also my own pupil worksheets.

Examples of alternative format - large print books, Braille books.

Examples of reading and daily living aids - Talking dictionary and talking calculator, various magnifiers, liquid level indicator, symbol cane etc.

# Appendix 5

## Technology: identification and function

The use of PC laptops connected to the school network by wireless network connections to give pupils access to the internet, printers and prepared materials on the schools' intranets.

Using School Intranet as a tool for accessibility – organising the developing materials in the shared folders (primary schools) and a web style presentation (Hawick High School).

The use of scanners and OCR Software by teachers and support staff to generate accessible documents e.g. enlarged print, or text files for later use.

The use by pupils of dedicated scanning/reading machines to carry out independent or to read class materials:

- The provision of key texts in whichever format is most suitable for the individual pupil: large print, digital audio, digital audio synthesised using the "reading machine" or Braille.

- The use of digital notetakers as an alternative to handwritten notes.

- Semi-portable CCTVs for access to diagrams, maps and occasional texts.

- The Daisy Format of audio files.

# Appendix 6(a)

## Interview questions

The following questions were used as a basis for interview with staff in primary schools as follows:

Pupil A: class teacher and additional needs assistant.
Pupil B: additional needs assistant.
Pupil C: headteacher, pupil and additional needs assistant.

**Borders Council/Scottish Executive**
**FLaT project**

Questions:

### 1. Present situation

1. Choice of equipment
2. Maintenance
3. Independence of pupil: training, free columns
4 DAISY: materials and utilisation
5. Classmates
6. Sharing of curriculum materials

1.1 How was each item of equipment selected:
- after trial?
- with pupil?
- with parents?

1.2 Which of the following were major factors in the selection:
- cost?
- ease of use?
- sturdiness?
- maintenance agreements?

### 2. Maintenance

2.1 Who owns the equipment?

2.2 What are the arrangements for:
- maintenance?
- repair?
- upgrading?
- replacement?
- review/evaluation?

2.3 What arrangements are in place for training:
- incoming children?
- new staff?
- users of new equipment?

## 3. Independent operation by pupil

Please specify the equipment used for each subject

3.1 Does the pupil set up and put away the equipment for each class?

3.2 have a customised display which appears on screen automatically?

3.4 How does the teacher convey necessary corrections to the pupil after marking?

3.5 What are the roles of the Support Assistant:
- in class?
- in preparation?

3.6 To what extent can the pupil conduct his/her own research?

## 4. DAISY

4.1 Please outline the use currently being made of DAISY, including the reading system used:
- at school.
- at home.

4.2 What is the source of DAISY materials?

4.3 What are the licensing arrangements for DAISY?

## 5. Classmates

Please outline the use made by other members of the class/school of:
- the intranet, in class.
- DAISY.

## 6. Sharing of Curriculum Materials

- Please outline how this is currently achieved/plans for development of shared materials within Borders Region.

## Future Situations

### 7. Future training

7.1 What plans are in place for training of current pupils to increase their expertise or introduce new software?

7.2 What plans are in place for training of future pupils with a visual impairment?

### 8. Future Plans

8.1 Are there plans for further use of:

- braille systems?
- DAISY?
- sharing of curriculum materials?

### 9. Budget

Please outline proposals for funding future purchases of new and updated hardware and software.

# Appendix 6(b)

**Questions put to classmates**

## Ethos of Acceptance

Below are the questions Mrs Sugden and Mrs Duthie would like to ask classmates of the pupils with a visual impairment.

1. a. Has anybody ever spoken to you about what it is like to not see very well?
   Yes No

   (If "yes")

   b. Who was it who discussed this with you?
   c. What do you remember about that talk?

2. How do you think somebody like that (with a visual impairment) can manage in:
   a. a classroom?

      What do you think about the equipment they use?
      What do you think about them having an assistant most of the time?

   b. the playground?
   c. the dining hall?

3. Do you go to any clubs or activities:
   a. at lunchtime?
   b. after school?

   Do you think those activities would be OK for somebody who did not see well?
   Yes No

   Explain what you think.

4. When you leave school and start a job or go to college or university, would you expect to meet people with a visual impairment there too?

   Yes No

# Appendix 6(c)

**Questions put to prefects**

## Ethos of Acceptance

1. a. Has anybody ever spoken to you about what it is like to not see very well?
   Yes No

   (If "yes")

   b. Who was it who discussed this with you?
   c. What do you remember about that talk?

2. How do you think somebody like that (with a visual impairment) can manage in:
   a. a classroom?

   What do you think about the equipment they use?
   What do you think about them having an assistant most of the time?

   b. the playground?
   c. the dining hall?

3. a. When doing your duties, are you aware of children with various difficulties?
   Yes No

   b. Which children come to mind?
   c. Are you specifically aware of the children with a visual impairment?
   Yes No

   c. When you leave school and start a job or go to college or university, would you expect to meet people with a visual impairment there too?
   Yes No

# Appendix 7

## Access to the Curriculum for All

## Questionnaire for secondary school teachers and auxiliary staff

The Borders Project "Access to the Curriculum for All" is being evaluated with a view to establishing a model for inclusion within the Borders region.

The evaluation team, John Ravenscroft, Janis Sugden and Alison Duthie have developed the following short questionnaire for teachers and support assistants to provide us with wider views on the efforts made to ensure full access to the curriculum for the children with a visual impairment in your school.

We would be extremely grateful if you would complete it honestly. Where appropriate, your further comment will be very welcome. If you teach both children, or have done so previously, please complete a separate sheet for each child.

The aim of the questionnaire is to establish:

- Suitability of equipment for the individual.
- The involvement of the class teacher with the VI child.
- Responsibility for availability and format of learning materials.
- Role of classroom assistant now and in the future.
- Inclusion socially.

When a choice of answers is offered in **bold,** please circle your preferred response

### 1. Suitability of equipment

Ease of use

(i) Which items of equipment does the student use in your class:

**Laptop scanner Daisy book player Audio books**

**electric wheelchair Videomagnifier Talking dictionary**

(ii) Of those items circled, which can be used by the student without adult help?

(iii) The student has a laptop for classwork. Is it used for:

**reading worksheets** **writing answers into worksheets**

**extended writing** **not sure**

(iv) In what ways does the classroom assistant help the student with his/her equipment?

**Setting up** **finding files** **reading out from screen**

**helping to type answers** **using facilities such as dictionary**

**not sure**

(v) Do you feel that the student has really useful IT equipment?

**Yes** **No**

Please comment:

**2. Involvement of class teacher with the student with a visual impairment**

There is an awareness amongst teachers and support staff that the presence of an assistant, although necessary, can inhibit the relationship between class teacher and VI pupil.

Do you find that in your class, compared with your interaction with other pupils, you interact with the VI child

**Less** **more** **just the same**

Please comment on the extent of your interaction and feel free to analyse.

**3. Adaptation of learning materials**

For your subject:

(i) Learning materials are adapted for the VI child by:

**Yourself** **the support assistant** **VI Transfer Assistant**

(ii) Classwork for your subject can be downloaded from the school intranet?

**Yes No**

(iii) Homework for your subject can be downloaded from the intranet

**Yes No**

(iv) Please indicate how you ensure that materials are available for the VI pupil at the right moment. Include details of arrangements for communication with support staff.

## 4. Adaptation of teaching methods

The presence of a pupil with a visual impairment in your class may demand that you change some of your teaching methods.

(i) What teaching methods do you find effective?

(ii) Which particular previous techniques have you stopped using?

(iii) Do you feel that the other members of the class have benefited from your revised methods?

**Yes No**

If yes, please give details.

(iv) How did you learn to adapt methods and materials?

**Trial and Error Reading up Advice from the visiting VI specialist**

## 5. The role of the classroom assistant

(i) Please outline the role of the classroom assistant in your lessons.

(ii) Would you be confident about teaching this VI pupil without the help of the classroom assistant?

**Yes, now No, not at all perhaps next year**

## 6. Social aspects of inclusion

(i) In your opinion, the pupil with a visual impairment is included in class activities:

| **Naturally** | **Because of a special effort on your part** | **Because of a special effort by classmates** |
|---|---|---|

(ii) Does the VI pupil go to lunch with friends?

**Yes No Don't know**

(iii) Are you aware of the VI pupil being involved in extracurricular activities?

**Yes No**

(iv) Please comment on the extent to which the VI pupil seems to be included in the curricular and the social aspects of school life.

Thank you very much indeed.