Something for everyone

ICT and an inclusive mainstream classroom

Becta
ICT Advice

Background and introduction

Pupils with a wide range of special educational needs (SEN) are increasingly being educated in their local neighbourhood mainstream school. The aim is to create greater social integration, better community development and raised standards for all pupils. Schools are expected to plan for and provide a school environment and curriculum that is accessible and does not exclude pupils with learning difficulties and disabilities. Teaching and learning must be individualised to meet the needs of pupils who have specific additional learning requirements, whether they are due to SEN, high ability, the pupils' circumstances or any other individual needs.

The move towards inclusive education means that teachers in mainstream schools are encountering a growing number of more complex and challenging needs among their pupils. Including all pupils in education is therefore a challenge for schools and for teachers. For some, the challenge will be including pupils whose behaviour is such that they risk being suspended or excluded from the school itself. For others, it will be about catering for the needs of a wide range of abilities within a single classroom. For the teacher in the special school, the challenge may be in devising socially inclusive opportunities with neighbouring mainstream schools. In all cases, however, the task of the teacher is to create a learning environment that gives every pupil opportunities to participate in the active learning that characterises all good classrooms.

ICT – part of the inclusive classroom

One of the features of an inclusive learning environment is that resources, whether they are books, worksheets, CD-ROMs or a range of software, are readily available for all pupils to use as part of the toolkit of the classroom. ICT, whether it is a single computer with generic software, or specialised access devices and programs, needs to be available as just another tool to support pupils' learning. While ICT can provide learning opportunities for all pupils, its potential in supporting personalised learning for those pupils with special needs is particularly important.

Sometimes the ICT used every day needs to be adapted so that all pupils can use it – a digital microscope, say, might need additional peripherals so a pupil with severe visual impairment could gain from using it. However, some specialised devices – a closed-circuit TV system, for example, which can enable a visually

Case studies

Broadclyst Community Primary School

Broadclyst Primary in Devon is a large rural school, which was an early adopter of ICT. The headteacher's vision is twofold. First he sees using technology as a skill for life which, when developed, will be a significant factor in all pupils' futures. Secondly, ICT is viewed as simply one of a range of tools, albeit an important one, which aids all pupils' learning.

The underlying philosophy is that all pupils can learn and that ICT can facilitate teaching and learning in a powerful way. The results speak for themselves with higher than average SATs results in most subjects, and a track record of successfully including many pupils who have been excluded from other schools.

impaired pupil to read the same texts as fellow pupils – can offer learning opportunities for other pupils too. Talking word processors, designed to help blind users check their typing, are now widely used by beginner readers and pupils with specific learning disabilities such as dyslexia.

Removing barriers to achievement, the Government's strategy for SEN, highlights the value of e-learning in the personalisation of learning for children with SEN:

> 'Information and communications technology enables staff to tailor their approaches more effectively to meet the individual learning needs of children. It can provide self-paced exercises to suit the differing needs of individual learners.'

Many schools are using ICT as a way to help address the diverse needs of their pupils. They are finding that, where planned for and used appropriately, ICT supports the development of an inclusive learning environment for all pupils.

About this booklet

This booklet is one in a series of publications called 'Include ICT' that examine the ways in which schools and other organisations are developing inclusive learning and teaching practices. It looks at ways in which teachers in mainstream schools can encourage full participation in aspects of school life by all the pupils in the school.

The schools in the following case studies were chosen because they are developing more inclusive approaches to the planning and delivery of education and because they demonstrate ICT as an essential tool in meeting the learning needs of all their students.

How to use the materials

The booklet is accompanied by a CD-ROM containing video clips that illustrate the key issues. This CD may be viewed in conjunction with the booklet, if you wish, or the booklet alone may be used.

The material can be used by teachers in mainstream schools and special schools, special educational needs co-ordinators and LEAs and others who are leading discussion and training in this field.

The school provides high levels of ICT equipment for teaching and learning throughout the school. A robust network provides all teachers and pupils with access to shared resources and information. Interactive whiteboards and sound systems in all classes maximise the benefit when using centrally stored resources.

Using wireless tablet PCs, teachers are able to routinely update assessment data on individual pupils as they work in the classroom. At the same time, homework is personalised with the aim of developing progression in the child's learning.

All pupils in Year 6 are involved in an 'enterprise' project. Groups of pupils develop business plans for a product they have designed, which, if accepted, can be built in

their technology lesson, marketed on a website, and then sold. The objective of producing a business plan is to make a case for the product being successful. The production of the plan, estimated costs, and marketing strategies are all developed using ICT. The project is highly motivating, but overall success depends on the groupings of pupils and the degree of collaboration within the groups. As the work develops, the individual strengths within groups emerge. Some pupils are particularly good at design, others at writing proposals, costing the materials or making the product. The social nature of this activity has meant that the school has become acutely aware of the range of behaviours that pupils demonstrate. Many pupils with difficult behaviour have discovered that meeting the challenge has boosted self-esteem and confidence, and provided opportunities for appropriate interactions.

Foleshill C of E Primary School

At Foleshill Primary, the use of ICT is well established, and ICT is viewed as one of many essential tools for learning. Interactive electronic whiteboards, digital cameras and video and a good range of software on the network ensure that technology is widely and easily available for all teaching staff and pupils.

Many pupils start school with little or no English. Multisensory approaches to language development are important. ICT, used alongside other activities, can provide a means for children to interact with text and images, moving an object around a screen, hearing words spoken for them and viewing video clips which illustrate specific concepts.

Teaching resources, developed by teachers and put on the school network, are made available to learners across the school. They can also be accessed before and after school or at home. This benefits pupils who need to revisit materials, need extra support or who may be absent from school owing to illness.

Driffield School

Driffield School in Yorkshire is a comprehensive school with almost 2,000 students aged 11–18 on the roll. Numbers are increasing and the school is currently oversubscribed. A recent Ofsted report indicated that a strength of the school is the provision for SEN, which is exceptional in quality.

The mathematics department was one of the first departments that decided to replace textbooks and use ICT in all lessons. A dedicated ICT suite has been created, and the timetable ensures weekly access for all students during mathematics lessons. Teaching staff in the department are creating and sharing personalised teaching and learning materials.

ICT offers teachers flexibility in how they deliver learning. It also offers different ways for learners to interact with the content, teachers and other students. Students can amend, annotate, or develop work in front of the class using an interactive whiteboard, use ICT to speed up mechanical processes (drawing a graph, for example) and focus on discussion and investigation to develop a fuller understanding of the concepts being taught. There are benefits for teachers, too, as they have the option to match what is to be taught to their preferred teaching style.

The Chalfonts Community College

At The Chalfonts College, a large specialist technology college in Buckinghamshire with 1,800 pupils and a large learning support team, teachers are developing electronic learning materials that they use in their lessons. These are shared on the network and each department has a significant bank of material that can be adapted and modified by individual teachers.

In lessons, information is often presented using the interactive whiteboard, where video or sound clips provide a multisensory experience. Both teacher and pupils have opportunities to annotate or add to electronic materials, either in response to a task or when investigating a particular concept.

ICT offers teachers flexibility in how they deliver learning. It also offers different ways for learners to interact with the content, teachers and other students

Key issues

○ **The use of ICT offers powerful approaches for teachers**

In an inclusive classroom, ICT is viewed as one of the important tools that teachers can use to support their teaching. In mathematics, for example, it can be used to investigate concepts and test understanding while removing barriers such as having to draw accurate graphs, a task automated by the software. The focus is then on the mathematics and not the mechanics of drawing. At the same time a teacher may reinforce the same concept using a non-ICT approach, for example a plenary session may involve pupils making the shape of different curves with their arms.

○ **ICT supports individual learning and teaching styles**

By exploiting the multisensory opportunities of ICT, it is possible to support the different learning styles of all learners and use the approaches that teachers consider most effective in particular circumstances, thus including all the learners.

The multisensory approach to teaching and learning, common in primary schools, is clearly effective in secondary settings. In the same way as reception pupils at Foleshill School use the whiteboard to develop understanding of language in a media-rich environment, so students in the English lesson at The Chalfont's Community College have material presented in a variety of forms: images, text, spoken word, movie clips and animation support a range of learning styles and, by using a pen, students can physically engage with the media on the interactive whiteboard.

○ **Good use of ICT to support inclusion helps everyone**

Materials developed or adapted to meet the needs of learners with special needs can often support all pupils' learning more effectively – so everyone benefits.

For example where a teacher adopted a more visual approach to teaching mathematics to ensure that a deaf student could participate, and also ensured her language was paced so that the student could clearly follow what was being communicated, other students also became more engaged.

○ **Open access to ICT includes all pupils in learning**

ICT can provide access to learning where and when required by the learner. This may be from the resources centre or any classroom, before and after school, or at home via the school network.

At Broadclyst Primary, the developing home–school links mean that pupils can access school work, homework and other school assessments through the computer that the school has arranged for the children's parents or guardians to lease.

To start this CD-ROM:

Place in CD-ROM drive. The CD should start automatically. If it does not: PC users should double-click the 'My computer' icon and then double-click on the CD-ROM drive icon; Mac users should double-click the CD-ROM icon, then double-click on the icon marked 'Include ICT Something for everyone'.

Further help

Inclusion website – news, resources catalogue, and advice and information on inclusive practice
http://inclusion.ngfl.gov.uk

Becta ICT Research – 'What the Research Says' series (see 'Interactive whiteboards', 'Home–school links' and 'ICT and motivation')
http://www.becta.org.uk/research/ display.cfm?section=2

Becta – ICT in inclusion and SEN (advice and information and examples of inclusive classroom practice using ICT to meet individual needs)
http://www.becta.org.uk/schools/ index.cfm

Becta – ICT in Schools Research and Evaluation Series: *ICT and pedagogy: A review of the research literature* (one of two literature reviews commissioned as part of the ICT and Attainment project and carried out by King's College London)
http://www.becta.org.uk/research/ research.cfm?section=1&id=536

Broadclyst Community School
http://www.bcps.org.uk

Driffield School
http://www.driffieldschool.net

Foleshill Church of England Primary School
http://www.foleshill.coventry.sch. uk

Inclusive Technology – articles on special needs and IT
http://www.inclusive.co.uk/infosite/ articles.shtml

Learning and Teaching Scotland – inclusive education
http://www.ltscotland.org.uk/ inclusiveeducation/

Removing barriers to achievement
http://www.teachernet.gov.uk/doc bank/index.cfm?id=5970

SEMERC – solutions for inclusion
http://www.semerc.com/inclusion_ in_action/inclusion_in_action.asp

The Chalfonts Community College
http://www.chalfonts.org

Inclusion of resources within this publication does not imply endorsement by Becta, nor does exclusion imply the reverse. Becta does not accept any responsibility for, or otherwise endorse, any information contained within referenced sites, and users should be aware that some linked sites may contain sponsorship or advertising material.

URLs and information given in this publication were correct at the time of publication, but may be vulnerable to change over time.

Becta

British Educational Communications and Technology Agency

04/DD04-05/1028/T109a/NP/5K