Inclusive teaching in ICT

Introduction

Your vision for planning and teaching will apply to all classes, groups of pupils and each individual pupil. Only occasionally are the needs of individual pupils or groups of pupils so distinct that entirely different approaches are needed to help them learn ICT and engage fully in lessons. In these instances, specialist guidance – more detailed than that given in this short section – is needed.

In the main, you will adapt existing planning and teaching principles in order to include all pupils. This section responds to two questions about planning and teaching ICT.

• What is the best way to support the progress in ICT of pupils who have particular needs? For example: pupils learning English as an additional language or those with special educational needs or learning difficulties or disabilities.

• What are the most effective actions to take if any individual pupils or groups of pupils are not making expected progress?

In most cases, the suggestions below involve adjusting existing practice rather than doing something new. For example:

• if you believe that pupils need to work together and to talk about their ICT, the task is to facilitate this collaboration more strategically for a pupil with emotional difficulties or a pupil who is not yet fluent in English

• if you are working to develop a more open questioning style that allows pupils time to think, you should choose questions to reveal and address pupils’ misconceptions.

The guidance that follows is based on strategies that have been tried and tested in the classroom. Each section includes references to further National Strategies resources which will provide more background detail and more practical support.

You will notice that all entries in this section recommend keeping expectations high. When expectations are high and teaching reflects this, most pupils, whatever their starting point, can aim for two levels of progress during Key Stage 3.

• Design lessons so that all pupils are included in ways that enhance their progress. See the Framework for secondary ICT – Inclusion and intervention section.

• Aim to keep an accurate picture of pupils’ progress towards their targets. See the Framework for secondary ICT – Assessment, target setting and pupil tracking section.

• When underperformance is identified, make a swift and strategic response. See the Framework for secondary ICT – Inclusion and intervention section.

A fair rule of thumb is to do the following.

• Know the pupils well.
  o What can they already do using ICT?
  o What helps them learn effectively?

• Know the ICT well.
What is needed to tackle the tasks?
What connections can be made?
What is this leading to?

- Respond to the learning.
  - How effective is the learning in these lessons?
  - Is the pace appropriate?

For further information, see the following publications.
Securing level 5 in ICT Ref: 0885-2004 G.
Increasing pupils’ rates of progress in ICT Ref: 0648-2004 G.

Pupils with English as an additional language (EAL)

Learners with English as an additional language (EAL) may need support to develop language and to access the ICT curriculum. It is easy to underestimate what pupils can do in ICT, simply because they are new learners of English. Planning, teaching and learning for pupils with EAL should be underpinned by the following key principles.

- Bilingualism is an asset, and the first language has a continuing and significant role in identity, learning and the acquisition of additional languages.
- Cognitive challenge can and should be kept appropriately high through the provision of linguistic and contextual support.
- Language acquisition goes hand in hand with cognitive and academic development, with an inclusive curriculum as the context.

Planning for EAL learners is most effective when:

- it is part of the planning process of the whole department and is embedded in the usual planning format
- it takes account of the prior learning of the pupils, whether in the UK or abroad
- the role of additional adults with EAL expertise and/or bilingual or multilingual skills is clearly indicated and they are either involved in the planning process or have plans shared with them at the earliest opportunity
- contexts for learning are relevant, motivating and culturally inclusive
- it takes account of the language demands of the curriculum, for example the use of subject-specific vocabulary when words have specific meanings in ICT that are different from their ordinary use – for example model, modelling, column, field, table – and grammatical complexities such as comparatives, conditionals and connectives
- it provides opportunities for speaking and listening, collaborative work and other strategies for language development
- consideration is given to the language of the task, how the pupils are grouped, and use of first language for learning.

Aim for EAL pupils to hear good models of language from peers and adults as a regular feature of ICT lessons. They are more likely to make progress in their learning when working alongside
peers with similar cognitive ability and greater linguistic proficiency. Use cooperative small-group work so that pupils work collaboratively with more expert speakers of English as well as pupils who share a first language.

Language-learning styles vary, and some pupils will not want to speak until they feel confident that they can produce an accurate and complete utterance. A silent period, when pupils learn receptively by listening, is a natural stage that many early-stage learners of EAL go through. Adapt your questioning so that EAL learners feel included and are encouraged to contribute orally when they are ready to do so.

Acquisition of academic language usually takes considerably longer to develop than social language. Try not to compromise on the cognitive challenge in the ICT and use bilingual approaches strategically, for example pupils’ understanding can be supported by exposing and discussing common misconceptions using the first language.

You will need to think carefully about how to build on the knowledge EAL pupils bring to a sequence of lessons. Encourage other pupils and teaching assistants to provide a listening focus by using props and prompts as they explain and discuss during lessons. Try to model this in your whole-class work by using images and models, making appropriate use of ICT where possible. Offer further support by providing note-taking frameworks and teaching specific vocabulary.

It is important for secondary school teachers to be aware of the level of ICT teaching in place in primary schools. Increasingly, this awareness is greater, because of effective transfer and transition practice that may include joint curriculum development, moderation of standards, sharing of good practice, and joint transfer activities such as taster sessions. When pupils arrive in school, it is helpful for their ICT teachers to have access to core subjects’ data and other information that has been transferred. This information can be used to plan early lessons that enable a good start, building on earlier learning and setting an expectation of good progress.

The first teaching unit in Year 7 is often used to form a baseline in the school’s tracking system for each pupil and to establish curricular and personal targets. This information may be used to identify pupils achieving below expectation, underperforming against other subjects or able or talented in ICT. For pupils who arrive at different times within the key stage, any assessment used in English and mathematics should be used for general guidance. A short practical activity, in English or a language with which the pupil is familiar, can be used to assess the range of ICT used. This activity could use an international search engine as an indicator of one area of the curriculum. The ease and confidence with which pupils approach or carry out the task from the cues given will be crucial elements affecting the judgment you reach. This is not a test; it is assessment for learning and should result in both teacher and pupil having a sense of what needs to happen next to support learning.

A culturally diverse cohort provides an opportunity within ICT teaching and learning. Pupils bring a range of cultural perspectives and experiences, which can be reflected in the curriculum and used to further the pupils’ understanding of the importance of the issues of diversity. This also enables pupils’ cultures to be valued. The ‘Respect for all’ website at www.qca.org.uk/qca_6753.aspx provides examples from within the ICT curriculum to help pupils value diversity and challenge racism.
‘The nature and severity of the cognition and learning needs of pupils learning EAL are easily underestimated or overestimated.

The identification and assessment of the special educational needs of children whose first language is not English requires particular care. It is necessary to consider the child within the context of their home, culture and community.’

Special Educational Needs Code of Practice 2001 Ref: 581/2001

For further details and findings of research see Special educational needs and ethnicity: issues of over- and under-representation at www.dfes.gov.uk/research/data/uploadfiles/RB757.pdf.

For further guidance, see the following publications.

- Pedagogy and practice: teaching and learning in secondary schools, unit 15: Using ICT to enhance learning Ref: 0438-2004 G.
- Literacy and learning in ICT Ref: 0676-2004 G.

Pupils with special educational needs (SEN)

Special educational needs/learning difficulties and disabilities (SEN/LDD)

Approximately 20 per cent of the school population is defined as having special educational needs (SEN) and/or learning difficulties or disabilities (LDD).

Some of these pupils will also have learning difficulties linked to social deprivation and some pupils with special educational needs will also have disabilities. The learning difficulties encountered are often, but not always, associated with literacy and numeracy development and are sometimes aggravated by missed or interrupted schooling, perhaps due to long-term medical conditions.

In many cases, pupils’ needs will be met through appropriate intervention, including the differentiation of tasks and materials. Rich tasks can be particularly useful in enabling access at different points for different pupils. You can ensure that pupils with SEN/LDD make good progress by:

- having high expectations that all pupils will have equal access to a full learning entitlement, whatever their starting point
- ensuring there is high-quality differentiated assessment of individual needs
- managing and liaising with additional adults
- ensuring that unit and lesson plans include a suitable range of objectives
- using a variety of teaching and learning styles
- using data to track pupils’ progress against curricular targets
- using a mix of whole-class, small-group, paired and individual work to allow for support and development of individuals' needs
- presenting information in a variety of forms: diagrams, models, verbal explanations and written explanations, to ensure accessibility
- providing structure for longer tasks, for example through the use of speaking or recording frames.

A smaller number of pupils may need access to specialist equipment and approaches, or to alternative or adapted activities. There may be pupils in a class who need support in order to take part in whole-class work. This support may take the form of:

- specific help with the recall of facts, to compensate for difficulties with long- or short-term memory
- help with the interpretation of data represented in graphs, tables or charts to compensate for difficulties with visual discrimination
- access to tactile and other specialist sensory and auditory resources to overcome difficulties in managing visual information
- help with interpreting or responding to oral directions, to compensate for difficulties in hearing or with auditory discrimination
- tasks designed to have smaller steps that hold pupils into the content and pace of the lesson.

See the Framework for secondary ICT – Inclusion and intervention section and Assessment, target setting and pupil tracking section.

There will be occasions when it is appropriate to also seek advice and further support from the leadership team, other professionals, outreach from special schools, and external specialists, as described in the SEN Code of Practice or, in exceptional circumstances, through a statement of special educational need.

In addition to the extensive support available through the intervention resources, a selection of materials produced by National Strategies can be used to support pupils with SEN.

- Effective leadership: Ensuring the progress of pupils with SEN and/or disabilities ([www.standards.dfes.gov.uk/secondary/keystage3/all/respub/sen_leadguide](http://www.standards.dfes.gov.uk/secondary/keystage3/all/respub/sen_leadguide))

In addition, some of the National Strategies materials published to support primary teaching and learning may be useful. For example:

- Information and communication technology (ICT) teacher’s guide – a scheme of work for key stages 1 and 2 Ref: QCA/98/211
- Improving the use of ICT in the Foundation Stage ([www.standards.dfes.gov.uk/primary/casestudies/foundation_stage/ict_foundation_stage/introduction/introduction](http://www.standards.dfes.gov.uk/primary/casestudies/foundation_stage/ict_foundation_stage/introduction/introduction)).
Pupils with disabilities
All schools are required to make 'reasonable adjustments' to enable pupils with physical difficulties to access the statutory curriculum. Support for most pupils with physical or sensory disabilities will generally take place in mainstream lessons as they work on the same ICT programme as their peer group.

Modifications to materials, equipment and furniture can help meet pupils' particular needs so that they can work alongside their peers. For example, some pupils may already use ICT to assist them in reading or recording their work. Pupils with hearing or visual impairments may need to be appropriately positioned in a class or helped to take part in an activity through signing or support by another adult. Other adaptations which may be necessary include preparation for oral and mental work and the pace at which it is conducted, the use of Braille and symbols, and the provision of materials that can be physically manipulated, including specific ICT aids and adapted measuring equipment.

Although pupils with disabilities often need time to become proficient with aids, expectations for them should remain high, with the focus on giving them maximum access and independence.

Pupils with emotional and behavioural difficulties
Many pupils with emotional and behavioural difficulties have poor literacy and numeracy skills as a result of their inability to maintain concentration and persevere with tasks. They can be supported by:

- ensuring that expectations are high, to prevent them becoming bored (e.g. not oversimplifying tasks)
- structuring lessons to maintain pace, giving opportunities for independent working and using a variety of activities
- using additional adults to help pupils begin tasks and to help them maintain concentration
- using praise to reward good learning behaviours (e.g. working effectively in groups)
- making ICT relevant by relating it to the real world.

All pupils have an entitlement to the opportunity to develop emotional and social literacy but pupils with emotional and behavioural difficulties have an urgent need in this area. The Strategy’s Social and Emotional Aspects of Learning (SEAL) Framework provides a rich source of guidance (see www.bandapilot.org.uk/secondary/).

Pupils with communication difficulties
Pupils with communication difficulties face particular challenges in ICT. They need clear, effective teaching, which steadily builds their confidence and participation. Try to use a structured approach to the language required and frame its use by pupils. Some pupils with speech and language impairments have no other developmental difficulties and their ICT lessons provide the opportunity to work alongside peers, practising and discovering strategies to overcome their difficulties.

Pupils who have autistic spectrum disorders, however, require well-structured lessons with clear routines and predictable parts. They respond best when the language used is concise, teaching is explicit and challenges are direct and well focused. Try to ensure that your expectations are made crystal clear. Be explicit about what you expect the pupils to learn and exactly what you expect them to do. Explain this clearly for the lesson as a whole and then re-clarify for each separate part or activity.
Pupils who are working well below national expectations for their age group

When schools have significant numbers of pupils starting Key Stage 3 at level 3 or below in ICT, it will be necessary to adapt the yearly learning objectives more significantly. In general, this can be achieved by using those from the preceding year, adding adjustments as necessary to reflect areas of particular difficulty or relative strength. Maintain high expectations of progress and plan so that there is time for consolidation without sacrificing the breadth of the teaching programme or the principle of planning from clearly defined objectives.

For further guidance, see the following publications.

- Materials for teaching ICT capability at and below level 3 Ref: 0383-2004 CD.

Pupils who are very able at mathematics

The yearly learning objectives in this Framework are targets for the majority of pupils in the year group. Able pupils may be able to meet the demands of ICT capability at higher levels than expected for their age. For example, they may show efficiency in their tasks, integrating applications, exploiting the potential of advanced features of ICT tools, initiating ideas and solving problems. They will progress more quickly and will need extension and enrichment activities to develop the breadth of their ICT and the depth of their thinking. They can be stretched by being given extra challenges and harder problems when other pupils are consolidating, by offering occasional differentiated group work, and by drawing work from the learning objectives for older pupils. Homework also provides opportunities to set suitably challenging tasks.

Where numbers permit, able pupils frequently benefit from being able to work collaboratively with pupils of similar ability on challenging tasks. When this is not possible, very able or gifted pupils who are markedly ahead of the rest of their class can follow individual programmes at appropriate times, with far fewer practice examples and many more challenging problems to tackle, including work that draws on other subjects. Of course, they still need some teaching to ensure that they understand what they have read and know how to present their work.

Details of provision for gifted pupils is available via the website of the National Academy for Gifted and Talented Youth at www.nagty.ac.uk.

For further guidance, see Gifted and talented education: helping to find and support children with dual or multiple exceptionalities Ref: 00052-2008BKT-EN.