

Module 5

Information and communication technology for able pupils

A note on terminology

Rather than 'gifted and talented' these training materials use the term 'able' pupils. Many teachers are currently more familiar with the broader term 'able' than with 'gifted and talented', which is now the DfES term for pupils whose ability is beyond conventional expectation. EiC uses 'gifted and talented', defined as the top 5–10% of pupils in a school. 'Gifted' pupils in an EiC cohort have latent or evident high ability in academic subjects, while 'talented' pupils have latent or evident high ability in a creative or expressive art or a sport.

Background to the module

This training module is intended to support ICT departments considering their provision for able pupils. It is concerned with pupils who display aptitude in ICT capability within an ICT lesson. Further guidance on supporting able pupils is published separately.

The session is designed as a collaborative working session lasting approximately 75 minutes. Its focus is on identifying appropriate provision for able pupils in a sample teaching unit (STU) of your choice. As such, it could be used as an introductory activity to the initial department exploration of the next sample teaching unit.

This module is designed to follow the introductory module 1, which considers whole-school issues related to the identification and teaching of able pupils generally, but can be used independently of this.

The module assumes that participants will be familiar with progression in ICT capability as exemplified in the core training day Standards and assessment and will have explored the approaches to differentiation as exemplified in the core training day Progression into and through Year 9.

You need to download and print the materials.

The module contains:

- guidance for the head of department (or other presenter) on leading the session;
- copies of OHT slides, which can be copied onto OHT acetates or projected from a computer;

- handouts which should be copied for all participants.

In working through the module, it is likely that departmental teams will identify issues they wish to pursue further. At several points, signposts to further guidance are included to help support such work.

Preparation and pre-module task

Before the session, participants should have been directed to the QCA guidance on gifted and talented pupils published on the QCA website: <http://www.nc.uk.net/gt/ict/index.htm>.

As presenter, you should familiarise yourself with the session notes and resources.

You should also decide which STU you will use. Microsoft Excel file random.xls is provided, but you may wish to substitute a different example more appropriate to your selected STU.

Audience

- ICT departments in secondary and middle schools

Objectives

- To identify the characteristics of able pupils in ICT
- To identify opportunities for differentiation in STUs for Years 7, 8 and 9
- To identify effective teaching strategies for able pupils

Resources

- OHTs 5.1– 5.7
- Handouts 5.1–5.3
- Microsoft Excel file random.xls (Note: RANDBETWEEN function must be enabled before this file is used)

For each participant:

- *Framework for teaching ICT capability: Years 7, 8 and 9* (DfES 0321/2002)
- One of the STUs that the department is planning to teach

Module overview

75 minutes

Pre-module reading http://www.nc.uk.net/gt/ict/index.htm	
Introduction Characteristics of able pupils	20 minutes
Teaching strategies Activities 1 and 2	35 minutes
Next steps	20 minutes

Introduction

20 minutes

Show **slide 5.1** and outline the objectives of the module.

Objectives	OHT 5.1
<ul style="list-style-type: none">To identify the characteristics of pupils who are able in ICTTo identify opportunities for differentiation in STUs for Years 7, 8 and 9To identify effective teaching strategies for able pupils	

Make these points.

- Initial guidance on teaching able and gifted pupils is included in the *Framework for teaching ICT capability: Years 7, 8 and 9* (see page 58).
- The STUs exemplify many of the approaches discussed in the Framework.
- This guidance is intended to help all schools address the needs of the 5–10% most able pupils in each cohort. A few very able pupils will need special consideration.

Slide 5.2 shows some statements about able pupils. Ask colleagues to discuss in pairs their attitudes to the statements.

Able pupils in our school	OHT 5.2
Discuss the following statements. <ul style="list-style-type: none">We all know who are the naturally able pupils in Year 7.We need to make sure we encourage and stretch the able pupils – they are the ICT teachers of the future.Lots of our pupils get good GNVQ grades, so we must be getting it right.Pupils who are good at most subjects are good at ICT.We know what our able pupils think of their ICT lessons.	

After a few minutes, share observations within the group. Keep the feedback and discussion brief. Most of the issues will be returned to during the session.

Make the following points where appropriate.

- High attainment and high ability are not synonymous. Some potentially able pupils do not achieve highly at school.
- Aptitude in ICT is not always reflected by high ability generally (and vice versa).

- Pupils' attitudes to a subject and their lessons will have a significant impact on the extent to which they achieve highly.

Say that you are now going to consider what 'able' might mean in an ICT lesson.

Show **slide 5.3** and ask participants to provide examples of what the statements it shows might mean.

Characteristics of able pupils

OHT 5.3

Able pupils:

- demonstrate ICT capability significantly above that expected for their age
- learn and apply new ICT techniques quickly
- use initiative to exploit the potential of more advanced features of ICT tools
- transfer and apply ICT skills and techniques confidently in new contexts
- explore independently beyond the given breadth of an ICT topic
- initiate ideas and solve problems, use ICT effectively and creatively, develop systems that meet personal needs and interests

Make the following points.

- Able pupils have individual profiles and few will demonstrate all of these characteristics.
- It is important to avoid stereotyping. Pupils may display talents that would surprise teachers of other subjects.
- Pupils do not develop at a consistent pace.
- Able pupils may not demonstrate their aptitude freely.

Distribute **handout 5.1**, which gives examples taken from the QCA website. Ask participants to reflect on these examples. Take feedback only if there are significant differences between their ideas and those on handout 5.1.

Ask participants to write down the names of the top 5% of pupils in each class that they teach. Then ask:

- Which of the characteristics do these pupils display?
- How do you know?
- Are there other pupils who display these characteristics?
- Are there other pupils who have yet to be given an opportunity to display these characteristics?

Use **slide 5.4** to summarise feedback.

Opportunities

OHT 5.4

- Identification is not an end in itself
- To ensure that pupils display their abilities we need to provide them with:
 - frequent opportunities to show high levels of aptitude;
 - systematic encouragement and praise for such displays;
 - rewarding responses (not just more of the same).

Note: Further guidance on effective practice in identifying gifted and talented pupils is included in Providing for gifted and talented pupils: an evaluation of Excellence in Cities and other grant-funded programmes (Ofsted, December 2001; available from www.ofsted.gov.uk); see particularly paragraphs 30–40.

Teaching strategies

35 minutes

The ICT programme of study with its core theme of reviewing, evaluating and modifying, provides many opportunities for pupils to develop critical thinking skills as an integral part of the lesson. The features of good teaching that the Strategy promotes are appropriate to pupils of all abilities. These are summarised in section 5 of the Framework (pages 37–42).

Ask participants to refer to pages 37–42 of the Framework to familiarise themselves with the basic features promoted by the Strategy.

Say that in the next section we will focus on challenging able pupils.

Show **slide 5.5**. Say that there are many strategies to challenge pupils in the lesson but that we will consider four.

Strategies to challenge pupils

OHT 5.5

- Use challenging questions to extend thinking
- Provide focused support as the teacher
- Extend and open up tasks
- Organise peer support and collaboration

Activity 1

Select one of the STUs that the department is planning to teach.

You may need to familiarise the participants with the teaching objectives addressed in the unit, the lesson outlines and some of the key resources.

Ask participants to identify specific examples of these strategies in the STU and to reflect on how they challenge able pupils. Collect the

examples so that they can be recorded and shared within the department.

Notes to help the discussion

Challenging questions

In whole-class interactive teaching the use of the starter and the plenary provides many opportunities to challenge pupils by questioning. The STUs contain questions that are structured to move from the concrete to the more abstract: the latter may be sufficiently challenging for able pupils, or more complex questions may need to be framed. Select beforehand which pupils you would like to answer the questions. For complex questions, or an extended reasoned answer, pupils could be selected at the beginning of the lesson to prepare their response.

Further information

Making good use of the plenary leaflet

(http://www.standards.dfes.gov.uk/keystage3/publications/?template=down&pub_id=2028&strand=generic)

Teaching and learning in the foundation subjects CPD material

Module 4: Questioning

(http://www.standards.dfes.gov.uk/keystage3/strands/publications/?template=down&pub_id=1996&top_id=2000&strand=tlf)

Focused support

Consider the guidance in the STU about grouping pupils. Grouping able pupils together in the lesson provides an opportunity for the teacher to discuss topics in more depth as well as allowing the pupils to discuss them among themselves. It is important that tasks, activities and questions provide a challenge for these pupils.

Extend and open up tasks

Many STUs contain extension tasks and activities. Reflect on how you may teach these tasks to your pupils. Are they suitable for all pupils? If not, which ones are they suitable for? What criteria will you use to decide this?

Peer support and collaboration

It may be appropriate at times to use able pupils as peer support. The need to explain, discuss and demonstrate a process to another pupil requires real understanding of the activity and allows pupils to restructure what they know. This requires careful planning: the benefits to the able pupil must be clear and shared with the pupil, guidelines agreed to ring fence the activity and follow up planned to ensure that objectives have been met. Able pupils should not be used as substitute teachers.

Activity 2

Show **slide 5.6** to remind participants of some characteristics of able pupils. Ask participants to reflect on what these characteristics might mean in a lesson. Say that they are going to explore a possible approach.

Characteristics of able pupils	OHT 5.6
Able pupils: <ul style="list-style-type: none">• learn and apply new ICT techniques quickly• use initiative to exploit the potential of more advanced features of ICT tools• transfer and apply ICT skills and techniques confidently in new contexts• explore independently beyond the given breadth of an ICT topic• initiate ideas and solve problems, use ICT effectively and creatively, develop systems that meet personal needs and interests	

Show participants random.xls. This is a model designed to simulate the throwing of a die 100 times. It has been constructed using a spreadsheet.

Ask participants to list the techniques used to construct the model.

Allow 10 minutes for exploration and discussion before taking feedback.

Use **handout 5.2** to summarise discussions.

Explain that, in this example, pupils have studied a finished product. However, the pupil activity does not focus on constructing a similar model but on analysing the solution.

Ask participants to identify which of these features they might teach to all pupils, which they might teach to able pupils and which they might expect able pupils to deduce.

Ask participants: Does this approach challenge pupils? Does it allow them to solve a problem? Does it provide a short cut to introducing knowledge, skills and understanding?

Say that doing an activity does not necessarily lead to pupils reflecting on what they have done or constructing meaning from it.

Ask participants to think about the questions they might use to focus pupils on the techniques and when and why they might use them.

Use handout 5.2 to record responses. Allow 10 minutes before taking feedback.

Distribute **handout 5.3**, which suggests possible questions. Allow participants to reflect on the suggested questions on their own before inviting feedback.

Next steps

20 minutes

Show **slide 5.7**.

Next steps

OHT 5.7

Have we identified our able pupils?

How will we ensure their progress in the next unit of work?

Have we identified opportunities for our able pupils to demonstrate their abilities?

What do we need to teach them?

Distribute copies of page 6 of the Auditing ICT in Key Stage 3 document for your department.

Ask participants to reflect on what has currently been filled in. Ask participants to consider whether the comments for the high attainers section in each year group are appropriate.

Take feedback as appropriate.

Activity 3

As a team decide on the action points that could be taken to ensure progress for the high attainers in the year group appropriate to the STU you have prepared. Focus on the work that you have planned to teach next.

Ask participants to identify:

- what if any of the approaches explored earlier would be appropriate;
- in the lesson plan (or STU) what techniques, where and when used would be appropriate with named pupils from their class;
- the resources required;
- the CPD requirements of each teacher.

Take feedback and ensure that the group has discussed and decided:

- two lessons where the participants will actively challenge their able pupils;
- the activities that will be appropriate;
- a series of questions that could be asked to ensure that ICT capability is developed;
- how these actions will be monitored and evaluated;
- how and when these evaluations will be reported back to the department.

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