

Section 2

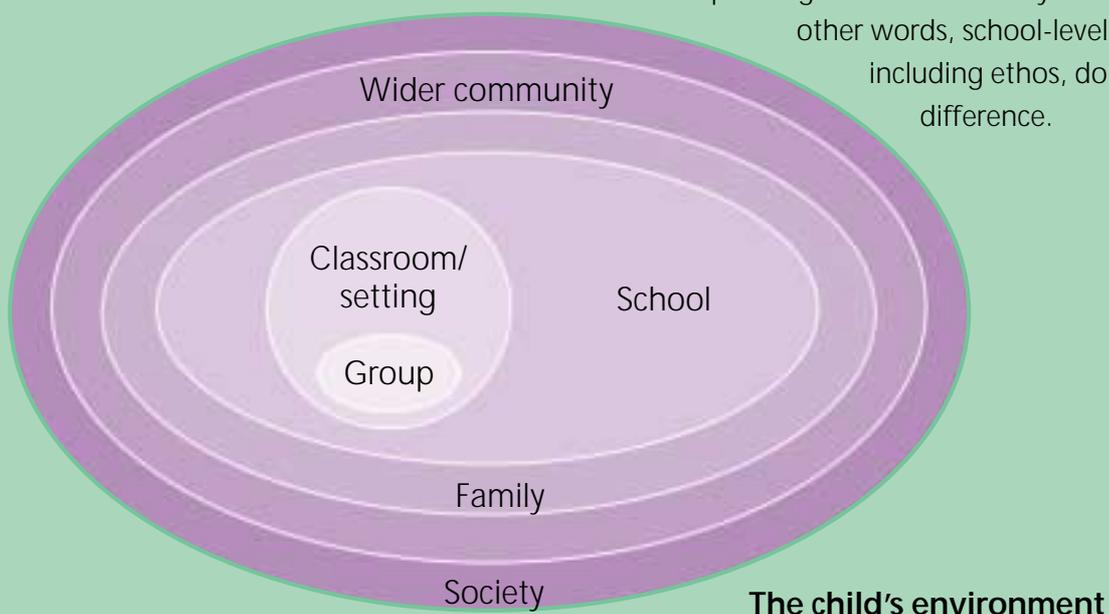
The learning environment and its impact on learning

The learning environment is made up of several factors which overlap and impact on each other in a variety of ways. In this section we will be looking at three sets of factors:

- ethos;
- behaviours and routines;
- the physical environment.

The learning environments we create in schools and settings are only part of the environments the learner inhabits. While teachers and practitioners may not be able to influence the wider environments of family, community and society, research shows that the learning environment has a powerful influence on children's achievements, and that children from similar social backgrounds progress at different rates

depending on the school they attend. In other words, school-level factors, including ethos, do make a difference.



Part 1 **Creating a positive ethos**

Introduction

After even a short time, visitors often comment on the 'feel' of a school or setting – the atmosphere they pick up as they walk around and talk to children and staff, look at work, take in the surroundings and see how children and adults behave towards each other. They may comment on it having a 'real buzz', 'being calm and orderly' or, less positively, 'scarily quiet' or 'chaotic'. In picking up on this 'feel', visitors are responding to the ethos the community has created.

The ethos of schools and settings underlies every aspect of their life and is all-pervasive. Its impact is powerful. Children quickly pick up on ethos – norms and expectations (which is not to say they always conform to these). Ensuring a positive, shared ethos is a high priority because of its importance for the life of the community and its impact on learning.

In learning environments where the ethos supports learning:

- there is an expectation on the part of both adults and children that learning is important and enjoyable, and that everyone can achieve;
- teaching uses a range of approaches and there is a culture of collaborative learning;
- teachers and practitioners are ambitious for children and expectations of learning are high;
- children are motivated to be 'the best that I can be'.

Several areas contribute to creating the ethos. These include those listed on handout 2 on page 45.



CPD ACTIVITY

Creating a positive ethos

Aims

- To consider the ethos of the learning environment.
- To identify areas for development to support the creation of a positive learning environment.

Materials

- Handout 2 on page 45 (optional).
- Copies of your values statement, equal opportunities policy, which discusses both generic and legislative requirements, and comments on ethos and values from your Ofsted report.
- Sticky notes and poster paper.

Organisation

- At a staff meeting, discuss and list what you think are the elements that make up the ethos of your school or setting. Or use handout 2 and annotate it with additional ideas.
- In pairs, consider what is said about ethos in your documents and Ofsted report. Consider the extent to which you feel each element in your list is represented in the documents and whether you feel this is an area that is securely in place or one for development. On sticky notes, record the three most secure areas and three that need attention, along with evidence for your views.
- Collate the sticky notes. It should be visible if some areas are considered priorities for development or well embedded by the majority of staff. As a whole group, discuss any disparities revealed. As a result of these discussions you may wish to undertake a detailed audit of those areas of practice (see 'Resources' section).
- If you agree on the priorities for action, look at the CPD materials listed below and decide which you will use as support.

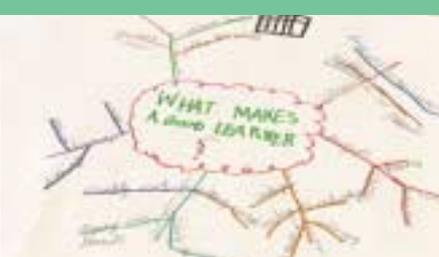
Looking at ethos: resources chart

Area for development	These CPD materials and other strategy materials
Values, beliefs and principles underlying policy and practice	<ul style="list-style-type: none"> • <i>Designing opportunities for learning</i>, section 1 • CRE and <i>Behaviour and attendance</i> audit tools (see 'Resources')
Emotional well-being of the learning community	<ul style="list-style-type: none"> • Section 1 of this unit • <i>Behaviour and attendance</i> audit and CPD materials
Relationships within the learning community	<ul style="list-style-type: none"> • 'Social skills' in section 1 of this unit
How the environment is organised and cared for	<ul style="list-style-type: none"> • 'The physical environment' in this section • Self-evaluation grid in module 4 in the NLS/NNS coordinators' handbook
Nature of relationships with the wider community, including parents and carers, and other professionals and agencies engaged with the child and family	<ul style="list-style-type: none"> • 'Involving parents and carers' in <i>Assessment for learning</i>, section 2, and the associated video clips (clips 9–11) • Conditions for learning video clip 2 'Earthwatch'
Systems for promoting good behaviour and regular attendance	<ul style="list-style-type: none"> • Behaviour and attendance materials (see 'Resources')
Language used within the school or setting	<ul style="list-style-type: none"> • First CPD activity (page 48)
The attitude taken to children's community languages and their use	<ul style="list-style-type: none"> • Second CPD activity (page 48)

Ethos

Several areas contribute to creating the ethos of the school or setting. These include:

- the values, beliefs and principles underlying policy and practice;
- the emotional well-being of the learning community;
- the nature of the relationships within the learning community (adults with adults, adults with children, children with children);
- a shared understanding of the rights and responsibilities of all members of the learning community;
- the nature of relationships with the wider community – parents, carers and other professionals and agencies engaged with the child and family;
- the systems for promoting good behaviour and regular attendance;
- the systems for combating bullying and discrimination in all its forms;
- how the environment is organised and cared for;
- the ways adults speak to and listen to children;
- the attitude taken to children's community languages and to their use.



Ethos: how we use language

How adults use language (both written and spoken) can have a powerful effect on creating a supportive learning environment. Small comments can destroy learners' self-esteem or boost it. Respectful language between adults and learners signals respectful relationships. Most teachers and practitioners try to use language that aims to demonstrate their commitment to equal opportunities and fairness. They adjust their language to offer differing degrees of challenge and support to meet the diverse needs of their children.

Supportive language

Hughes and Vass (2001) have identified three types of language that are helpful in supporting learning and motivation. They are:

- The language of success.
 - Signal confidence to children of their ability to succeed with phrases such as 'I know you can ...'.
- The language of hope.
 - Create an ethos where it is acceptable for children to say 'I'll try but I need some help ...' rather than 'I cannot do it'. Support this by using phrases such as 'You can do it ...', and 'What helps you do it?'
- The language of possibility.
 - Learners may express limits to their achievements with phrases such as 'I'm no good at ...' and 'I always get X wrong'. Support a climate of greater possibility by the language you use in response, such as 'Yes, you did get it a bit mixed up but let's see which bit is causing you problems'.

(From Hughes, M. and Vass, A. (2001) *Strategies for closing the learning gap*. Network Educational Press)



CPD ACTIVITY

How we use language

Aim

- To consider how language use can help create the conditions for learning.

Materials

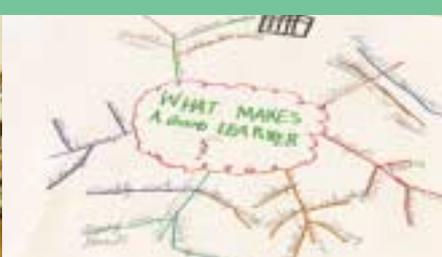
- Handout 4 – Things teachers say and what they really mean
- Handout 5 – Things children say and what they really mean.
- Handout 6 – Examples of 'no-blame language'.
- Sticky notes and poster paper.

Organisation

- Children are very adept at picking up on the language used by adults. In pairs, look at handout 4. After enjoying the jokes, reflect on what this light-hearted example reveals about the language used and how it is interpreted. Together you may like to suggest a few more examples.
- Now reverse the situation. Handout 5 has examples of things children often say. What might they really mean? Add further examples. How could you respond to such comments in order to support a positive learning culture?
- Apart from the words, what other aspects of language use will influence how your message is received?
- Share paired discussions in the larger group and reflect on how you use language to create a supportive learning environment.
- Then discuss the ideas about language outlined in the box on supportive language on page 46.
- Return to handout 5 and see if any of the suggested responses fall into these categories.
- Discuss the impact on ethos and self-esteem of responding using positive language and avoiding negative language.
- Look at handout 6. Can you add any further examples?
- What are the implications for your work with children who have special needs in communication or interaction, or those who are at the early stages of learning EAL and those who are from different cultural backgrounds? How might these be addressed?

Next steps

- Agree to try using positive and no-blame language in response to children who are experiencing difficulties with some aspect of learning (cognitive or affective).
- Agree some practical steps and how you will monitor and share the impact of these. At a subsequent meeting, discuss what you have done or found out and how you will continue to develop this.



Other possible CPD activities

- Agree to observe adults talking to and listening to children over a set time period. Undertake the observations in a variety of contexts – classroom, playground, whole class, group work, etc. At a subsequent meeting, share your findings and discuss the implications of the ways adults speak and listen to children (e.g. Are adult-child exchanges positive in tone? When are bilingual children comfortable using their first language?). Decide any actions you need to take as a result of these discussions.
- Watch the Conditions for learning video clip 3 'Speaking from experience', an extract from the NLS materials *Supporting children learning English as an additional language*. This shows a bilingual teacher recalling her personal experience of schooling in this country. Discuss in pairs what is most significant for you about what Maria says. Then, as a group, discuss what you mean by 'safe, settled, valued and belonging to the class'. Compare your thoughts with those on handout 3.
- Agree to work with your children to create and use affirmative posters using the language of success, possibility and hope. Assess and discuss their impact on ethos and the learning environment.



Speaking from experience: interview with Maria

Maria speaks about 'feeling safe, settled, valued and belonging to the class'.

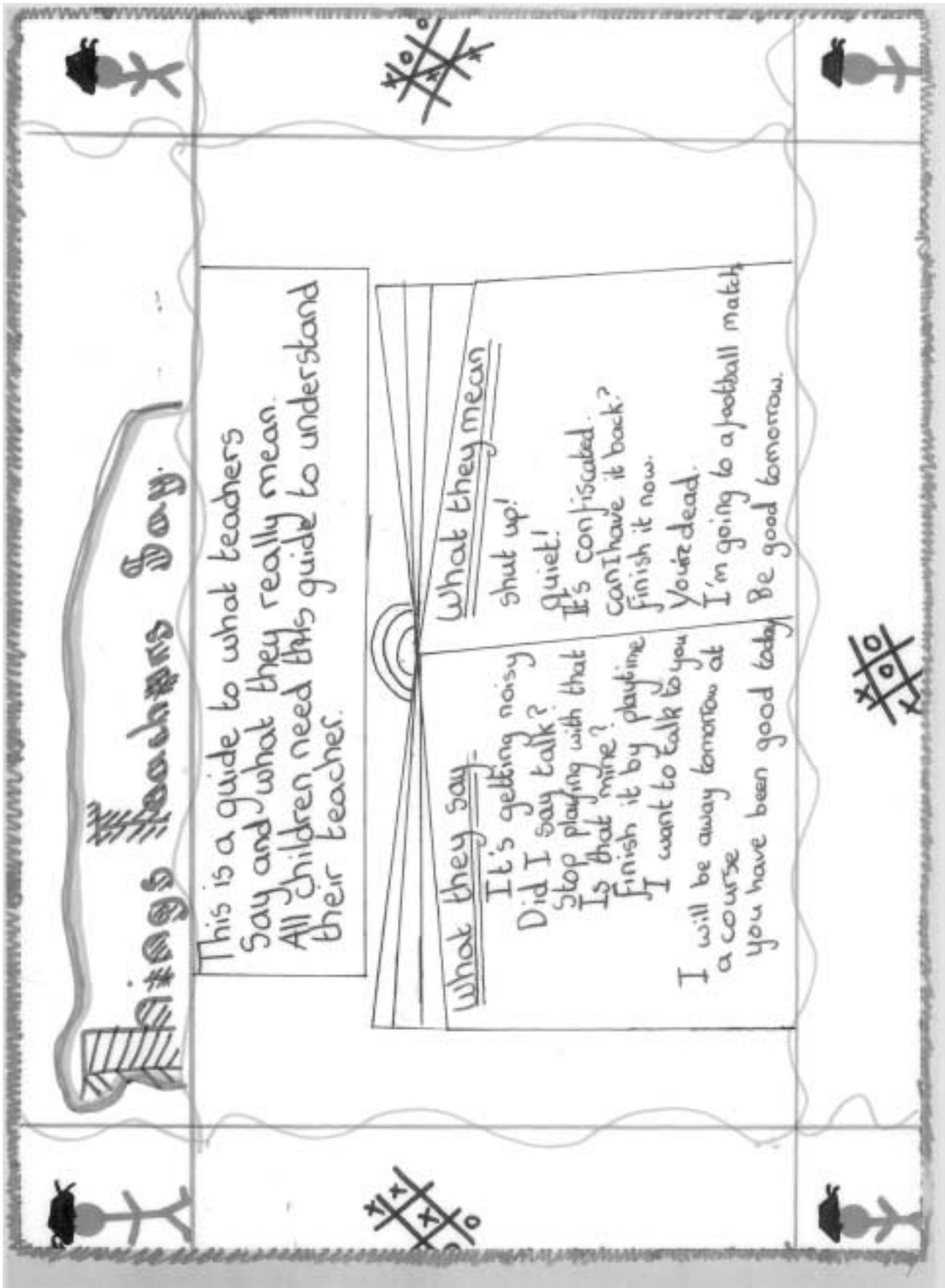
By 'safe' is meant: physically safe from intimidation and racist bullying; safe to take risks and 'have a go' at answering questions and talking in the classroom, without fear of ridicule.

By 'settled' is meant: being acclimatised to new surroundings, routines and language used. (The amount of time needed for settling in and confidence building can be quite short given appropriate support from the teacher, the class and the school.)

By 'valued' is meant: being respected as an individual with a home language, culture, life experience and intellect.

By 'belonging to the class' is meant: being recognised and recognising yourself as a member of the class with the same rights and responsibilities as everyone else.

(From *Supporting children learning English as an additional language* (Module 2), NLS, revised 2002)



(From a parody text 'The true guide to teachers', created by a group of Year 5 children)

Things children say and what they really mean

What they say	What it might mean	A way to respond using positive language
No one will play with me.		
I can't do this. It's too hard.		
Robert's copying me.		
I always spell <i>beautiful</i> wrong.		
That was easy.		
I'm stuck.		
I don't like writing.		
I can't understand this.		
Can I stay in at lunchtime?		

Examples of 'no-blame language'

- What do we need to remember here?
- I know you can ...
- Which part didn't I explain well enough?
- That's right, isn't it?
- Lots of people get mixed up on this bit.
- I'm sorry, I should have made it clearer.
- OK, so you haven't quite mastered it yet.
- Up to now this bit has proved a little tricky.
- You will remember ...
- Your choice / it's up to you / you decide.

(From *Improving the climate for teaching and learning in the secondary school*, DfES, 2003)

Part 2 Establishing classroom routines

Familiar and established routines and procedures can support learning. They provide a 'road map' that helps learners know what to expect. They can help part of the learning process to become automatic, thus freeing up cognitive space to concentrate on something else. They can support social interactions and establish a sense of security for children (e.g. established procedures around arriving in the classroom, routines for registration, book changing, circle time, shared activities with parents and carers). However, it is essential that the learning within these routines is made explicit and shared among teachers and practitioners and with the children. Only in this way will the learning potential of routines be fully utilised.

Well-established and clear rules support learning by setting expectations and making the consequences of poor behaviour or learning effort explicit and publicly shared. Rules and routines are established by actively teaching them to learners (e.g. getting a class to create agreed rules at the start of term). Effective teachers and practitioners put effort into establishing norms and expectations when they first begin work with a class or group of children (e.g. by praising cooperative behaviour or by making sure bilingual children know they can use their first language). They continually revisit and reinforce them (e.g. reminding children of the rules they have created for taking turns in speaking and listening sessions at the start of such sessions – or getting children to remind each other).

Familiar routines and procedures are also built into lesson planning through the way the lesson is structured and paced. (See 'Lesson structure' in the *Designing opportunities for learning* unit for this aspect of establishing routines.) For more information about rules and routines you could also look at the behaviour pilot CPD material 'Setting expectations and teaching positive behaviour' in *Behaviour and attendance: developing skills* (see 'Resources' section for details).



CPD ACTIVITY

Routines

Aim

- To consider the value of established rules, routines and structures and their roles in creating the conditions for learning.

Materials

- Conditions for learning video clip 4 'Classroom routines'
- Poster paper

Organisation

- At a staff meeting, watch video clip 4, which shows a history lesson (see background details of the video clip on page 55).
- Note the rules and routines the teacher uses in the lesson. What evidence is there that these are familiar and established rules and routines for speaking and listening? How does the teacher explicitly remind children of these?
- How do these familiar routines support:
 - behaviour?
 - learning?
 - social interactions?
 - adult–child interactions?
- In pairs, share successful rules and routines you have established in your learning environment. These might include:
 - securing the children's attention;
 - entering and leaving;
 - changing activity;
 - managing resources.
- Then discuss the following questions:
 - How are the children involved in developing rules and routines which recognise the rights and responsibilities of all members of the community?
 - What learning is intended to be developed through these routines?
 - What do the children actually learn?
 - Is the routine exploited to extend learning?
 - Is there anything you can learn from each other?
- Discuss any causes for concern. What is causing the problem?
- As a whole staff, discuss ideas for changing or re-establishing rules and routines. Who needs to be involved?
- Next, consider rules and routines that involve the whole school or setting, for example:
 - going to and from assembly;
 - coming in after playtime;
 - lunchtime routines;
 - going swimming.

- Are there any rules and routines that are causes for concern? For example, swimming may be a cause for concern for some religious groups; coming in after playtime may be managed in different ways by different adults.
- What causes the problem? Discuss ideas for changing or re-establishing these routines to make them more successful. Who needs to be involved? How can the whole staff support this initiative?

Next steps

- As a group, identify key ideas that you have discussed in this activity. You might like to write them on a large sheet of paper and display them in the staff room.
- How might you apply the ideas you have learned over the next few weeks? Agree some practical steps and how you will monitor and share the impact of these.
- At a subsequent meeting, discuss what you have done or found out and plan your next steps.

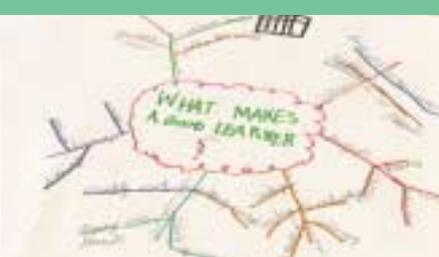
Video clip 4 – background details

The school featured in the video clip is Foredyke Primary School, which is situated in a large area of social housing in Hull. As part of an ongoing project within the LEA*, the teacher has worked to establish a range of speaking and listening strategies with his class of Year 5 children. Oral work is a central feature of his approach to learning. In order to ensure that valuable learning and teaching time is not wasted while children organise themselves into a variety of groupings, he spends time at the beginning of the year establishing the rules for speaking and listening. The constant use of the different groupings and strategies such as ‘finger bullet

pointing’ in all areas of the curriculum ensures that the children know the routines and expectations. In this lesson, two teaching assistants are working with children with a statement of SEN, and a teacher from another school is observing the session. This visiting teacher is part of a learning community of local teachers who are involved in implementing similar approaches in their classrooms.

* Further examples from the project of speaking and listening activities used across the curriculum are included in the *Classroom community, collaborative and personalised learning* unit (pages 24–27).





Part 3 The physical environment

The physical environment has a significant influence on learning. It gives children clear messages about how we value them and how we value learning. It can be supportive of independent learning. Developing independent learning has far-reaching implications for the ways that teachers or practitioners and children interact, the tasks that are set, the responsibility that children take for their own learning and the opportunities teachers or practitioners plan for children to initiate and extend their own learning. One way to begin looking at developing independence is to consider the ways that the physical environment can support learning.



CPD ACTIVITY

The learning environment

Aim

- To evaluate the physical environment as a context for learning.

Materials

- Handout 7.

Pre-meeting activity

- In pairs, complete handout 7 in relation to your learning environment.

Organisation

- At a staff meeting, discuss your learning environment in small groups, using the following prompts:
 - What elements of your learning environment promote learning and support all learners? This might include layout, display, resources, organisation of materials, and deployment of ICT equipment.
 - Where and how is ICT equipment located in the environment? What sort of learning might the layout encourage or discourage?
 - What are the most successful elements?
 - What would you like to change and why?
- Come back together to create a list of successful elements within the environment that support learning and learners.
- Identify any areas where you feel you could make changes and decide how you will achieve this. For example you may decide to ensure all classrooms have a comfortable and inviting book area.

Next steps

- Identify and implement one change you could make *immediately* to make the environment more supportive of learning.
- Decide on further improvements you could make to the learning environment. Monitor the impact of changes you make.
- At a subsequent meeting, discuss what you have done or found out and the further steps you will take (a detailed audit on the classroom environment can be downloaded from www.standards.dfes.gov.uk/literacy/publications/cpd/63569/).



Assessing the classroom environment

Focus area	Desirable elements	Evidence
Sharing objectives and reviewing learning	<ul style="list-style-type: none"> • Learning objectives displayed and used • Key questions displayed and used in lesson starts and plenaries • Key questions, prompts and scaffolds available to support children's talking and thinking about learning • Curriculum displays include statements and questions to highlight key learning points • Layout of classroom supports inclusive, interactive teaching approach 	
Learning process	<ul style="list-style-type: none"> • Seating and tables used flexibly to support working in different contexts and for different purposes • Layout of classroom and provision of resources support collaborative learning • Display reflects the learning process in different curriculum areas, not just finished work • Metacognitive prompt posters remind children how to ... 	
Positive affirmations	<ul style="list-style-type: none"> • Positive affirmations displayed in the classroom and referred to regularly, e.g. posters, successes boards. Diversity in all its forms visibly celebrated 	
Tools and resources	<ul style="list-style-type: none"> • Tools are well organised, clearly labelled and accessible • There is a wide range of books, attractively displayed, well organised and accessible • Other resources are well organised • There are opportunities to learn indoors and outdoors • Resources, including equipment and visual images, reflect their family lives and a range of learners and their communities in an inclusive manner • ICT-based resources are organised in a way that promotes appropriate use by both teacher and children • Space is used appropriately to promote seamless working at and away from the computer or other ICT resources 	



Other possible CPD activities

- Watch the Conditions for learning video clip 5 'Using displays: Foundation Stage'.
 - The teacher (Lisa) uses sticky notes to record brief observations and sticks them against the appropriate early-learning goals on display. Could this be adapted for the age group you are working with or the setting you are working in? Could older children be involved in noting their self-assessments in a similar way?
 - The segment featuring the ladybird display shows a child using a display to practise counting. What aspects of learning does this display support? Are there any ideas that could be used or adapted in your own setting?
 - Discuss the video clip using the following prompts: How could this practice be developed in Year 1 and Year 2? What are the implications for the way in which Key Stage 1 learning environments are organised? What information would teachers need in order to build on the Foundation Stage practice?
- Undertake a learning walk around the learning environment, including the grounds. What elements of shared areas support learning? How does the set-up in the ICT suite or ICT equipment in the library support different learning approaches? Which areas could be improved? Ask for suggestions from the children, parents and carers, and governors or management committee members, as well as staff. How can these be built into development planning?
- Watch the Conditions for learning video clip 2 'Earthwatch: learning and teaching in the outdoors'. Discuss the particular potential of the ethos and holistic nature of outdoor environments for promoting learning.

Section 3 Effective teaching and its impact on learning

Many attempts have been made to identify the teaching characteristics that contribute to effectiveness. These include the competences for trainee and newly qualified teachers, the characteristics identified by Ofsted when judging teacher performance, and those generated from research projects that have sought the views of teachers and children. The Organisation for Economic Co-operation and Development, for example, suggested five key dimensions of teacher quality, based on data collected from 11 countries. These are:

- *knowledge* of substantive curriculum areas and content;
- *pedagogic skills*, including the ability to use a repertoire of teaching strategies;
- *reflection* and the ability to be self-critical;
- *empathy* and the acknowledgement of the dignity of others;
- *managerial* competence, as teachers assume managerial responsibilities within and beyond the classroom.

In this section we concentrate on one of these key dimensions – pedagogic skills and the ability to use a repertoire of key teaching strategies. The quality of teaching is one of the factors that contribute to creating the conditions for learning. Revisiting key teaching strategies offers opportunities for reflection and self-appraisal as well as the promise of improved learning and achievement for children.

Teaching strategies are used within a pedagogic approach. Different pedagogic approaches reflect different theories about how children learn. These are explored in the *Classroom community, collaborative and personalised learning* unit. Teachers select from their repertoire of strategies those that will best support different kinds of learning. This careful matching is a key part of teachers' professional expertise.

Part 1 Questioning

Questioning lies at the heart of learning and teaching. Research over many decades has shown that some teachers and practitioners ask too many closed and unproductive questions. Learning is enhanced when we ask fewer but better questions, and seek better answers, giving children sufficient 'wait time' to think and respond. Adults help children learn by asking productive questions, and by encouraging children to ask their own questions. They sustain thinking during dialogue by using alternatives or extensions to questions that challenge children's thinking. An enquiring classroom creates a culture of learning when both adults' and children's questions are valued and genuine dialogue is promoted.

This section explores the following elements of questioning:

- purposes of questioning;
- how teachers and practitioners use questions;
- how we can improve questioning, including:
 - alternatives to questions;
 - planning questioning to promote thinking (Bloom's taxonomy – see page 70);
 - helping children ask questions for a variety of reasons, including as a starting point for their own enquiries.

CPD ACTIVITY

Purposes of questioning

Aim

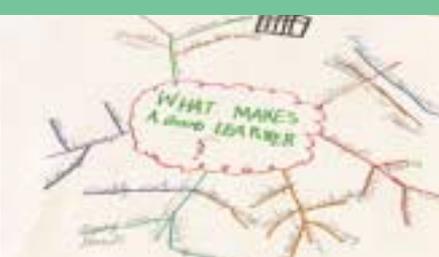
- To consider why teachers and practitioners ask questions.

Organisation

- In a staff meeting, discuss the following questions in pairs:
 - What is a question?
 - Why do teachers and practitioners ask questions?
 - Why do children ask questions?
- Regroup and discuss the main points from the paired discussions as a whole group.
- After your discussions, share the sections 'Purposes of questioning' and 'How teachers and practitioners use questions' on pages 60–62.

Next steps

- Observe some teaching. Note the number of questions the adult and the children ask and their purpose, the length of the response, and any use of alternatives to direct questions. Note down a few examples of the adult's questions. Bring this information to the next meeting on questioning.

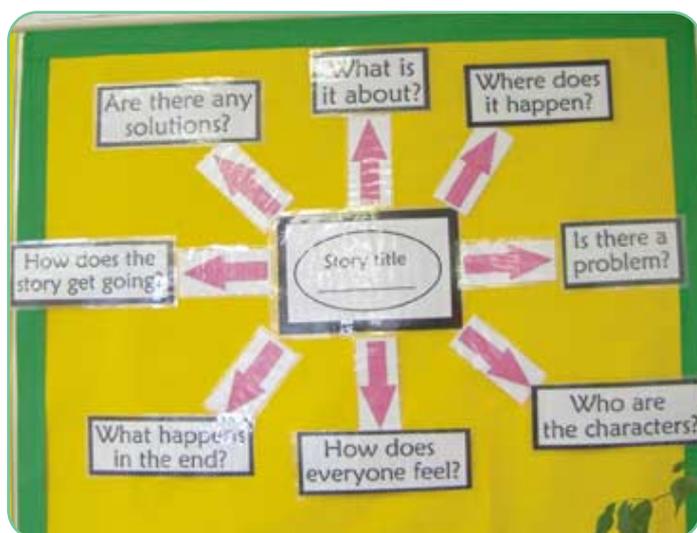


Purposes of questioning

Why do we ask questions? People generally ask questions because they want to know something. Teachers and practitioners use questions for a wider range of reasons, for example to motivate, to assess, and to promote reflection, analysis or enquiry.

Questioning can help facilitate learning. Through questioning the adult can:

- focus attention;
- arouse interest;
- stimulate thinking;
- find out what children know;
- review, revise or recall learning;
- invite everyone to engage in discussion;
- engage individuals such as more able children or those who may be reticent in offering a response;
- probe children's understanding;
- diagnose difficulties and misunderstandings;
- stimulate curiosity and invite children's questions;
- get children to explain, predict or give reasons;
- help children express what they think, believe or know;
- help children make learning explicit;
- help children apply their learning.



However, the use of questions also has a potential to inhibit intellectual activity and save children from the effort of having to think. Closed, factual questions with known right answers are useful in testing recall of knowledge but they do not encourage children to persist in their thinking and learning.

Questions need to make children think about the learning objectives but they can also encourage thinking beyond the objectives, to help children make creative links to other areas of learning and life.



Questions are broadly of three kinds:

- *empirical* – concerning facts about the world;
- *conceptual* – concerning ideas, definitions and concepts;
- *value-related* – concerning beliefs about the worth and merit of things.

These broad categories often overlap and sometimes a question can relate to all three types. For example, ‘What is a friend?’ can be answered empirically by giving concrete examples from one’s experience of the world, or conceptually by defining in a more abstract way the meaning of the word, or value-related by making a judgement about what a friend *should* be and do. Questions that are conceptual or value-related are often called ‘higher-order’ questions, because they involve thinking at higher levels of abstraction.

How teachers and practitioners use questions

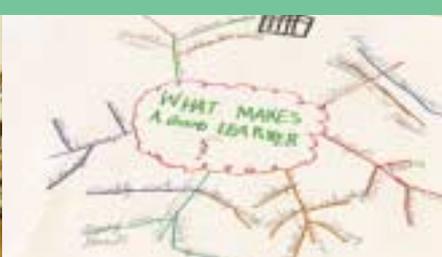
Teachers and practitioners ask a lot of questions – studies show that it may be more than 300 a day. These can usually be divided into three categories.

Category	Purpose	Example
Managerial questions – behaviour and task	To do with running the class	Have you got your pencils?
Information/closed questions	To test recall of knowledge	How many sides has a triangle?
Higher-order/open questions	To make children do more than remember	What is music?

The first two categories are factual and empirical, whereas higher-order questions are critical, creative, conceptual or value-related.

Perhaps teachers and practitioners ask too many questions. Studies suggest that those who ask most questions are less likely to:

- receive questions from children;
- promote elaborated answers from children;
- encourage children to contribute spontaneously to dialogue.



The more children are questioned, the less they tend to show initiative in their responses. **We should try, therefore, to ask fewer but better and more demanding questions – and to use alternatives to questions to stimulate their thinking.**

A good question poses an intellectual challenge – provoking what Piaget called the ‘cognitive conflict’ which can help children move on to more advanced levels of development.

Poor questions may limit, diminish or dismiss thinking. If questions are confused, unclear, too complex or too simple, they produce unproductive responses. Questions that are too closed or narrow often are really just asking children to guess what the adult is thinking. When too easy, they can be of the traditional stimulus–response: ‘What is this?’, ‘What is that?’ When too hard, they may result in the questioner answering the question: ‘What is a frog?’ ‘An a ... am ... amph ... amphib ... amphibian!’

Improving questioning

There is a place for the quick, closed, fact-finding question of the quiz type. A memory test can reinforce and remind children what they know, and can help them to remember. For specific purposes, such as mental arithmetic, closed questions can provide a significant cognitive challenge. The acid test of a question is: Does it provide a worthwhile challenge? In providing a challenge, there needs to be a balance between closed ‘quick-fix’ questions, and open questions that demand more complex and higher-order thinking.

Examples of open-ended questions that genuinely invite children to think include:

- ‘What do you think ...?’
- ‘How do you know ...?’
- ‘Why do you think that ...?’
- ‘Do you have a reason ...?’
- ‘How can you be sure ...?’
- ‘Is this always so ...?’
- ‘Is there another way/reason/idea ...?’
- ‘What if ...? / What if ... does not ...?’
- ‘Where is there another example of this ...?’
- ‘What do you think happens next?’





A number of questioning skills have been identified in research. These include:

- sequencing a set of questions – moving from literal to higher order (this is particularly supportive for EAL learners and some children with SEN);
- pitching appropriately – putting the questions clearly;
- distributing questions around the class – to the less forthcoming children as well as those who are more outgoing;
- prompting and probing – giving clues where necessary;
- listening and responding in a positive way – inviting children's questions;
- challenging right as well as wrong or underdeveloped answers;
- using written questions effectively – with key questions for further thinking.

Responding to questions: thinking time

How teachers respond to children's answers is crucial. Often teachers will accept a child's answer, repeat it and move on to a new question. Increasing 'wait time' to 3–5 seconds can result in significant changes, such as:

- children giving longer answers;
- more children offering to answer;
- children being willing to ask more questions;
- children's responses becoming more thoughtful and creative.

There are two types of thinking time – after the question and after the answer. The first allows children time to produce more thoughtful answers; the second allows the questioner responding (and the listeners) to think for a few seconds about the answer. Research argues that this second wait time is the more crucial.

Allowing silence after asking a question is a deliberate act by the adult to encourage a more thoughtful response.

Alternatives to questions

There is a danger, even with skilful questioning, of following a pre-set agenda and not encouraging children's initiative. In adopting a 'teacherly role' we can dominate the talk by asking too many questions and imposing our own meaning. Those who ask too many questions tend to discourage children from giving elaborate or thoughtful answers. *Overusing* a pattern of repetitive fixed questions – Who?, What?, Where?, When?, Why? – will result in children asking fewer questions themselves, giving short responses, rarely discussing with peers, volunteering few ideas and showing confusion. One way of resolving this is to use alternative to questions.

Some alternative strategies that can prove more effective than questions in stimulating thoughtful discussion are given in handout 8.

Different children need different sorts of alternative. Often the 'puzzled listener' role will be effective if it reflects genuine interest and attention to the learner's answer. Strategies to support thinking and talking include pause, prompt and praise.

Pause, prompt, praise

Pausing

This includes allowing thinking time. Sometimes a minimal encouragement will prompt further thinking – 'Hmmm', 'Uh huh', 'Yes', 'OK', 'I see'.

Non-verbal encouragement includes eye contact, facial signals such as smiling, and body gestures.

Prompting and probing

This involves giving verbal encouragement, for example by checking whether we have understood what the child has said and giving opportunities for rethinking and restating an

idea – 'Can you explain?', 'Tell us again'. Probing questions include: 'Why do you think that ...?', 'How do you know ...?', 'What do you mean by ...?', 'What if ...?', 'Is it possible that ...?'

Praising

This is giving positive feedback. Being specific and personal with praise – 'That's an interesting answer', 'I like the way you ...' – can foster general participation by supporting the hesitant, rewarding risk-takers and valuing contributions.

Extending dialogue

Rather than accepting short answers, we support learning if more extended answers are sought (see page 65). This can also be encouraged if the questioner takes on a more challenging role on occasions: for example, disagreeing or putting an opposing argument and not rewarding children simply for making a response.

The handbook to *Speaking, listening, learning: working with children in Key Stages 1 and 2* (page 22) suggests some dos and don'ts for extending classroom dialogue.

The use of ICT to improve the quality of interactions, questioning and dialogue

The interactive whiteboard can promote increased interaction between the teacher, the children, the subject and the technology itself. It allows children to engage with the same central focal point in the classroom – something that is not easy to achieve with other types of technology. It also enables the teacher to refer back easily to previous learning and resources.

Children can use the dynamic representation of systems, images and text to explain their methods, to support their reasoning, to demonstrate their understanding and to teach others. The ability to interact physically with the software, by manipulating the text and images on screen, stimulates 'on-task talk'. Children may talk for longer than otherwise in their responses and use an extended range of vocabulary in their explanations. These are all features promoted in learning theory and it is these qualities of learning that teachers point to when they talk of the benefits of using this technology.

The interactive whiteboard can encourage questioning and intervention at a range of levels, including open and closed questions as well as probing and evaluative responses, all as part of the general flow of the lesson.

CPD ACTIVITY

Developing alternatives to questions

Aim

- To consider alternatives to questions.

Materials

- Handout 8 – Alternatives to questions.
- Handout 9 – Beyond the question mark: reminders for September.

Organisation

- At a staff meeting, split up into small groups to discuss and list different ways of responding to children that do not involve the use of questions. Give an example for each of the alternatives to show how it might be used in practice. If you have undertaken classroom observations (see the previous CPD activity, 'Purposes of questioning'), these observations can feed into the discussion.
- How can ICT help develop questioning?
- Share and discuss your lists. Compare them with handout 8 and add any further examples you have identified.

Next steps

- Create an agreed guide to 'Developing alternatives to questions' that could be shared with staff, parents and carers. Handout 9 is an example of the outcome of this for one school.

Further resources

- A set of leaflets including 'Talking in class', which has a section on alternatives to questions, is available as part of the pack *Teaching literacy and mathematics in Year 3*.

Alternatives to questions

Using alternatives to routine questions can actively encourage thinking and dialogue. Ways to do this include:

Withhold judgement	<ul style="list-style-type: none"> • Respond in a non-evaluative fashion • Ask others to respond
Invite children to elaborate	<ul style="list-style-type: none"> • 'Say more about ...'
Cue alternative responses	<ul style="list-style-type: none"> • 'There is no one right answer' • 'What are the alternatives?' • 'Who's got a different point of view?'
Challenge children to provide reasons	<ul style="list-style-type: none"> • 'Give reasons why'
Make a challenging statement	<ul style="list-style-type: none"> • 'Supposing someone said ...'
Contribute your own thoughts or experience	<ul style="list-style-type: none"> • 'I think that ...' • 'Remember when ...'
Use 'think-pair-share'	<ul style="list-style-type: none"> • Allow thinking time • Discuss with a partner, then in a group • Pair children so they can discuss in their first language
Allow rehearsal of responses	<ul style="list-style-type: none"> • 'Try out the answer in your head' • 'Try out the answer on your partner'
Invite children's questions	<ul style="list-style-type: none"> • 'Would anyone like to ask Pat a question about that?'
Use thinking aloud	<ul style="list-style-type: none"> • Model rhetorical questions • 'I don't quite understand'
Ask a child to invite a response	<ul style="list-style-type: none"> • 'Ali, will you ask someone else what they think?'
Don't ask for a show of hands	<ul style="list-style-type: none"> • Expect everyone to respond

Beyond the question mark: reminders for September

Whole-school aims

Why we need to focus on questioning skills:

- To develop more active learning by getting children to question each other and the teacher more.
- To provide children with the opportunity to tackle abstract and conceptual questions in order to develop their confidence and competence in higher-order thinking.
- To develop teacher questioning skills through the use of Bloom's taxonomy.

Next steps

Following our June INSET on teacher questioning, the following strategies/procedures were discussed to encourage good questioning.

Question tree to be displayed in every classroom to show seven different types of question. This is to be used as a reference point for both teachers and children.

Group discussion poster to be displayed and referred to. Introduce the poster during circle time and try to encourage group activities in your classroom, especially when asking the higher-order questions. You will get a better-quality answer if the children are allowed to discuss the question as part of a group.

Questions you are going to ask identified in planning. Don't leave asking a question to chance! Often we will ask knowledge-based questions! Planning in the questions we are going to ask will allow us to see which types of question we are asking. Remember to build in the higher-order questions. **Use the coding system which has been set up: each colour identifies a different type of question.**

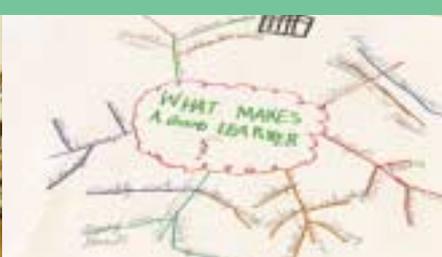
Experiment with using the question track game and concept cartoons to aid questioning.

When asking a question remember the following:

- Allow the children time to **wait and think**.
- Allow the children the opportunity to **share** their ideas (first with a partner then with a larger group).
- When discussing ideas the teacher should value all contributions and **withhold judgement**.
- The teacher to challenge thinking by **posing an alternative point of view**.
- **The teacher to model asking and answering questions.**

Happy questioning!

(Created by Norwood Green Junior School, Hounslow)



Planning questioning to promote thinking

There are many taxonomies of thinking but perhaps the most familiar is that of Bloom (1956). According to Bloom's taxonomy, analysis, synthesis and evaluation demand more complex and 'higher' levels of thinking. They also make greater demands on children's linguistic resources. Questions that ask for knowledge, comprehension and application demand less complex and thus 'lower' levels of thinking.

Higher- and lower-order levels of thinking (Bloom's taxonomy)

- 1 **Knowledge** – for example, 'Who?', 'What?', 'Where?', 'When?', 'How?'
- 2 **Comprehension** – for example, 'What do we mean by ...?', 'Explain ...'.
- 3 **Application** – for example, 'What other examples are there?'

- 4 **Analysis** – for example, 'What is the evidence for parts or features of ...?'
- 5 **Synthesis** – for example, 'How could we add to, improve, design, solve ...?'
- 6 **Evaluation** – for example, 'What do you think about ...?', 'What are your criteria for assessing ...?'

One effective strategy is to ask questions that make increasing cognitive demands on children, to move from simple knowledge or recall questions, through questions that ask for comprehension or explanation, and on to questions that ask for application, then analysis, synthesis and finally evaluation. Often this will mean moving from the 'What?' and 'How?' descriptive question, to the 'Why?' and 'What for?' question that asks for a more complex response. A good question offers a progressive and productive challenge to learning. It provides a model for the sorts of productive question that children can ask of themselves and of others.

To develop our questioning we need to ask fewer questions and better questions (including more higher-order questions), and to help children to ask their own questions.



Helping children ask questions



Young children usually start their time in the Foundation Stage full of questions. If we want children to be active and adventurous thinkers, we need to encourage them to continue to ask questions. One way is to provide opportunities for them to ask questions other than the managerial questions they so often ask.

If children themselves identify what they want to know, then when they ask a question they are much more likely to value and remember the answer. Some questions will not be easy to answer. One teacher was asked: 'What is the difference between the ozone layer and the greenhouse effect?' She did not feel able to give a full answer at the time, so she involved children in researching an answer and got in an 'expert' to judge the different answers to the question.

Display children's questions and come back to them. They can be sorted into categories, for example:

- questions we can answer;
- questions we can find the answer to;
- questions that cannot be answered.

Discuss with children the nature of good questions. Ask which of a list of questions is the best or most interesting question. Find out what questions they would most like to have answered.

A simple way to assess the ability of children to devise questions is to give them a common object, such as a chair or a cup, and ask them to list as many questions about the object as they can. Another way is to take a subject of current study and see how many questions children can create about it. A third way is to choose a text, such as part of a story or poem, and see how good they are at interrogating the text by asking them to create questions about it. First teach them about different sorts of question (national test marking schemes give some suggestions).

Children can be supported in learning to ask questions through teacher modelling and the use of reciprocal teaching strategies (Palincsar and Brown, 1984). Handout 10 gives further suggestions for activities to encourage children's questioning.

With practice at creating questions, the fluency and flexibility of children's questioning will improve. After a year in an enquiring classroom, children are usually able to generate more questions and a wider range of questions about any topic of study.

Activities to encourage children's questioning

Activity	Details
Topic questions	Groups devise questions about a topic to research.
Reading/study review questions	Children ask questions about what they are reading or listening to (see the national test marking schemes for the sorts of question that teachers and children may forget to ask).
Hotseating	Children take turns to choose to be a character from literature, history or current affairs. Others create questions to ask the child playing the role.
Questions game	One child chooses an object, person or place. Others have 20 questions to find out what it is. Only 'Yes' and 'No' answers are allowed. Only three direct guesses are allowed. Play in groups of six (e.g. two choose, four ask).
Question and answer	Children devise questions to fit a given answer (e.g. a person, place, thing or number; or for older children a quote from a poem or play).
Any questions?	Children write a question (empirical, conceptual or value-related). Each question is then given to an 'expert' partner to answer.
Interview questions	Decide on someone to interview (e.g. a visitor or a local VIP). Children devise, share and evaluate the best interview questions.
Question your classroom	Devise, write and display questions to stimulate thinking and discussion about objects, pictures or texts in your classroom. Record the questions children pose.
Keep a questions box, board or book	Collect any interesting or puzzling questions that arise in the classroom. Create a place to write, store or display your questions, such as in a box, on a board or in a book. Set aside some time, such as at the end of the week, to choose and discuss a question. Alternatively, share out the questions for children to work on at home. Or swap questions with another class or group.
Metacognitive questions to assess learning	Display some metacognitive questions to encourage children to assess and reflect on their own learning, such as 'What have I learned?', 'What have I found hard?', 'What do I need to learn next?', 'What would help me do better?'. Discuss these in a plenary session. Older children could write their responses in a learning log.
Introduce artefacts that may be new to the children	Examine artefacts (e.g. a wide variety of seeds and grains, a collection of bones, a range of cooking implements from different cultures) of different materials or designs. Give children time to explore them and pose their own questions about them.



Possible CPD activities

Use the following prompts to facilitate staff meetings. The tasks should be related to your planning.

Planning a sequence of questions (Socratic questioning)

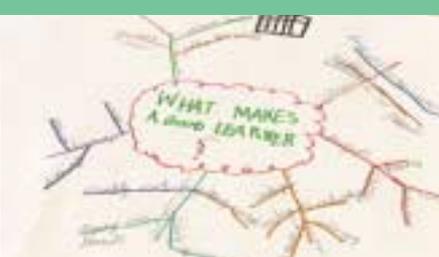
- A Socratic sequence of questions begins with the concrete and literal (e.g. 'What is a butterfly?'), proceeds through analysis (e.g. 'How does a butterfly differ from a bird?'), leading to an abstract or organising concept (e.g. 'So what defines an insect?'). Consider the question 'What is the value of asking a sequence of questions?' and compare your answer with those of colleagues.
- Choose a topic that you are planning to teach and plan a progressive sequence of questions related to the topic.

Encouraging children's questioning

- Consider the question 'What is the value of children asking questions?' Compare your answer with those of colleagues. Discuss ways of encouraging children's questioning.
- Questions to prompt reflection and discussion include:
 - Who asks most of the questions in your classroom?
 - Is the importance of questioning discussed with children?
 - What opportunities are children given for asking questions?
 - Is there evidence of children's questions on display?
- What particular examples show your children's ability to ask interesting and relevant questions?

Creating a questioning learning environment

- Discuss ways of creating an enquiring learning environment with colleagues. Some questions for reflection or discussion include:
 - Who in the classroom is doing most of the talking and the thinking?
 - Do adults ask too many questions?
 - Are we allowing enough thinking time? If so, when?
 - Do we support children in their talking and thinking? How?
 - What can be done to shift from closed questions to those that genuinely invite reflection and problem solving?
 - How can we encourage children to ask more questions?
 - How does the use of ICT contribute to questioning?
 - How do you create a questioning classroom?



Part 2 Explaining

Explanations abound in day-to-day interactions between adults and learners. Sometimes the teacher or practitioner is giving the explanation to assist learners to develop their understanding of a subject, process, relationship and so on; sometimes the learner is explaining their thinking (and this is often a key assessment opportunity).

Children recognise – and value – clear explanations. We have all experienced the impact of explanations that have helped clarify our understanding and those that have served only to confuse or puzzle us further. If we listen to someone giving a good explanation it often contains some of the following elements:

- **Structure.** Ideas are broken down into sections and linked together logically. Often a key idea is given first (e.g. all insects share common characteristics), followed by details (e.g. they have six legs and a body that is divided into three sections). A time sequence may be followed (e.g. first the king gathered together all his soldiers), or a cause-and-effect structure may be used.
- **Good subject knowledge.** The speaker has a good grasp of the subject – it is difficult to explain what we don't understand ourselves.
- **Adaptation to the audience.** Language is carefully chosen (e.g. the way we would explain how to teach reading to a parent or carer might be different from the way we would explain it to a fellow practitioner. We may need to take particular care when explaining things to children with different cultural expectations, those who are learning EAL, or children with special educational needs in cognition and learning or communication and interaction).
- **Use of exemplars.** The explanation is illustrated with examples, particularly ones which relate to learners' existing knowledge and interests.
- **Engaging the learners and supporting understanding through a range of strategies.** This might include the use of visual aids or actions, the use of analogy and metaphors, the use of graphic organisers, and so on.
- **Responsiveness to feedback.** The explanations are amended in the light of feedback from the learner. Further explanations are offered if understanding is not achieved, or explanations are shortened if it is clear that the learner has understood.
- **Effective use of voice and body language.** The delivery sustains attention and interest.
- **Length.** It is to the point and fairly brief, or it may be broken up with questions in order to check understanding.

CPD ACTIVITY

Considering our current practice

Aim

- To encourage staff to consider what makes a successful explanation and put this into practice.

Materials

- Conditions for learning video clip 6 'Models and images', or any other video that shows an adult explaining something to children.

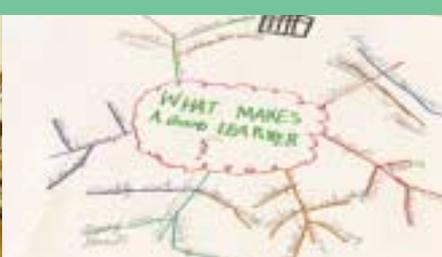
Organisation

- In a staff meeting, watch the video clip. Use the list of attributes of effective explanations given on page 74 to identify their use in the clip you are considering.
- Discuss your observations and identify where the explanations were most successful and where you felt there were areas for development. How did the use of ICT support the explanations?
- Half the staff (group A) then spend 5 minutes preparing an explanation about why schools or settings might decide to have a mid-morning break and the other half (group B) spend 5 minutes preparing an explanation of why there are yellow zig-zag lines outside schools (or any other explanations of your choice).
- Get together in A-B pairs. A should give their explanation to B, who should give feedback based on the list of elements above. The roles are then reversed. If there is time, amend your explanations in the light of the feedback.

Next steps

- Reflect on what you have learned about explanations.
- Plan some explanations in more detail than you would normally and try these in the classroom. If possible, arrange to observe each other as you use the explanation you have planned, and give each other feedback.
- At a future staff meeting, discuss how you will continue to develop your own and the children's use of explanations.

Note: Children can be introduced to reflecting on what makes a good explanation during work on writing explanation and when using explanation objectives from the speaking and listening materials Year 1 / Term 1, Year 2 / Term 3, Year 3 / Terms 1 and 3, Year 6 / Term 3.



Part 3 Scaffolding

One important view of learning, based on the ideas of Lev Vygotsky, is that inexperienced learners learn from working with more expert others. Working with a more experienced person, the inexperienced learner can achieve more than they could working on their own – they are 'scaffolded' by the expertise of the other. Gradually the learner takes over more and more of the task from the expert until they can do it without assistance. They are then ready to take on new, more challenging learning, again scaffolded by an expert. Thus they continue to move from dependence to independence, constantly increasing their own expertise. Vygotsky claimed that this was how children learned 'naturally' within societies and families.

In teaching, scaffolding involves offering support when new ideas and concepts are introduced. This support may be through demonstration and modelling in shared and guided work (see the next section), by providing support such as frameworks and prompts, by offering opportunities for bilingual learners to use their first language, and by working alongside a group or individuals offering oral or other prompts.

Recognising when to withdraw teacher scaffolding is important if children are not to become overdependent. Moving children on from scaffolded learning to independent learning involves offering children scaffolds such as criteria cards for self-evaluation, cue cards and writing frames that they can decide when (or if) to use. This helps children develop awareness of their own learning (metacognition) and the opportunities to work things out for themselves. Asking children in a plenary to reflect on the strategies they have used is a further essential element of scaffolding: children are again encouraged to be explicitly aware of their learning processes.

CPD ACTIVITY

Scaffolding

Aim

- To consider how learning is scaffolded.

Materials

- Conditions for learning video clip 6 'Models and images'.

Organisation

- At a staff meeting, watch video clip 6.
- How is the children's learning scaffolded by:
 - the teacher?
 - the equipment used?
 - the resources available?
- How, when and why is this support withdrawn?
- In pairs, plan a teaching episode in an area of learning or foundation subject that will involve you in scaffolding a new piece of learning. Arrange to observe this being taught. Focus on a small group of children and observe the impact of the scaffolding on their learning.

Next steps

- At a subsequent staff meeting, share your observations and discuss the implications and your next steps.

Part 4

Demonstration and modelling

Demonstration and modelling are key learning and teaching strategies that scaffold or support children's learning to take them successfully from what they know into new learning (see 'Scaffolding' on page 76). They are interactive whole-class teaching strategies that involve both teacher-led activities and children contributing and trying things out.

Modelling and demonstrating are directly linked to the objective for the lesson or series of lessons and support children's new learning so they are able to successfully take it on themselves.

Modelling should:

- make explicit to children the underlying structures and elements of what is being taught;
- provide a supporting structure, which can be extended and used to apply the objective that has been taught.

Teacher modelling involves the teacher showing how to do something while simultaneously describing what they are doing and explaining why they are doing it. Modelling often involves slowing down the process so it can be seen clearly. It offers learners the opportunity to:

- see and hear the process;
- ask questions if something is unclear;
- discuss what they have seen and heard with other learners and with the 'expert' undertaking the modelling;
- see that expert learners may modify or correct a process as they undertake it.





In literacy, modelling and demonstrating are the key strategies in shared reading and writing to make sure that children understand both the process (e.g. how a narrative is written) and the particular example (e.g. writing a further chapter for a story).

In mathematics, models give children a picture or image to help them understand the mathematics and set out the steps involved in a solution to a particular problem. Demonstration is short, clear and precise, promoting a skill or setting out the steps involved in a solution to a problem.

Children need to be given the opportunity to practise and apply the processes and structures that have been modelled and demonstrated. When following up demonstrating or modelling, emphasis needs to be placed on quality questioning.

CPD ACTIVITY

Teacher modelling

Aim

- To consider how teacher modelling supports learning.

Materials

- Conditions for learning video clip 7 'Teacher modelling'.

Organisation

- At a staff meeting, watch video clip 7. Note the techniques the teacher uses and consider how this supports children's learning.
- In small groups, discuss in what ways modelling supports children's learning. Create a joint list. Your list will probably include the following:
 - provides a visual, auditory and kinaesthetic learning experience;
 - provides an opportunity to model the language associated with the process and the subject-specific language;
 - makes the thought processes of an expert learner explicit;
 - shows what can be achieved and sets high standards;
 - provides a concrete example for children;
 - demonstrates new or difficult concepts within a meaningful context;
 - can point out difficult areas and repeat these if necessary;
 - offers opportunities to check on children's understanding.
- Share examples of teacher modelling undertaken across the curriculum. Identify an opportunity during the coming week when you can include teacher modelling. Take time to plan this in some detail. Monitor the impact of this carefully planned episode and decide on your next steps.

Part 5 The use of ICT

ICT is a curriculum subject in its own right, designed to provide children with a range of ICT skills and capabilities. It also has a significant role to play in learning and teaching across the curriculum. Technology offers a learning medium with distinctive features. These can be used to support and enhance the development of learners'

knowledge, skills and understanding. This section of the materials considers how teachers or practitioners can integrate the use of ICT into their day-to-day teaching across the curriculum.

The ideas and ICT examples briefly outlined in these materials provide an introduction to those aspects of learning and teaching that are exemplified within nine subjects of the primary curriculum on the Primary National Strategy ICT CD-ROM (see 'Resources' section). When using the materials in this section it is recommended that the person leading the learning and teaching CPD activities uses these ICT materials to help with their planning and to exemplify practice.



Aspects of teaching and ICT as a teaching tool

While ICT can be used to support teaching in many and varied contexts, successful use reflects the extent to which teachers or practitioners interact with children, and children with the curriculum area being taught. Successful use of ICT can:

- reduce planning time;
- introduce greater variety and stimuli that capture children's interest, generate enthusiasm and prompt ideas and thinking;
- provide improved access to different media and resources that help children to communicate and explore;
- overcome barriers to learning for children with disabilities;
- accelerate the pace of the lesson.

ICT is a tool to help the teacher or practitioner; it does not do the teaching for them.

Teachers and practitioners can make valuable use of many of the features and facilities of ICT, especially when the teaching involves:

presenting, re-presenting and communicating

demonstrating

accessing and analysing

modelling

testing and confirming

CPD ACTIVITY

ICT as a tool for teaching

Aim

- To consider how ICT can support teaching across the curriculum.

Materials

- Handout 11 – Using ICT as a teaching tool.
- Blank posters headed ‘Demonstrating’, ‘Modelling’, ‘Accessing and analysing’, ‘Presenting, re-presenting and communicating’, ‘Testing and confirming’.
- Sticky notes.

Organisation

- At a staff meeting, read handout 11 and use this to think about examples from your own teaching that fall into each category. Consider why and in what ways this teaching was successful.
- Working in cross-year pairs, share your use of ICT. Write on sticky notes examples of when you made successful use of ICT as a teaching tool, and relate these to the five aspects of teaching on the handout.
- Regroup and share examples by placing the sticky notes on the appropriate poster.
- Discuss the following questions:
 - What was particularly successful?
 - Which of the five aspects of teaching did ICT support?
 - How did ICT contribute to the teaching?
 - Why was the teaching successful?
 - Are there examples of good practice we can share and develop?
 - Are any aspects underrepresented?
- You may wish to watch some of the examples from the Primary National Strategy ICT CD-ROM to complement and extend this activity.
- From the examples you have shared or seen on the CD-ROM, select one use of ICT you may not have made use of in teaching. Work with a partner to plan how you will use this, and identify the aspect or aspects of teaching you plan to focus on in the session. Agree to report back on the success of the lessons and how ICT supported your teaching.
- Allow time to discuss with subject coordinators and the ICT coordinator any subject-related or ICT-specific issues you are concerned about.

Using ICT as a teaching tool

Examples of how ICT might be used as a teaching tool to support the five aspects of teaching

Demonstrating

Using ICT to:

- show children techniques (e.g. how to measure in science and mathematics);
- contrast ideas (e.g. in art and music);
- share other children's work for discussion and review (e.g. in literacy and history);
- compare children's own performances and interpretations (e.g. video clips in PE and drama).

Modelling

Using ICT to:

- give children simulations of real-life problems or events (e.g. a circuit in science or changes in landscapes in geography);
- show children how to analyse text and use a writing frame (e.g. in literacy or history);
- provide an image that supports a concept (e.g. use of sound and pictures in PSHE to simulate different emotions and feelings, use of a spreadsheet as a mathematical model – 'What will happen if ...?').

Accessing and analysing

Using ICT to:

- provide children with access to information in different forms (e.g. DVDs, audiotapes, signs and symbols, a range of languages);
- find things out (e.g. exploring a website in any curriculum enquiry);
- show children a range of text types (e.g. non-fiction text in literacy, analysing how authors use language to express emotions and feelings in PSHE);
- present alternative representations and images (e.g. deciding on the most appropriate charts for

data collected in design and technology, comparing the works of different painters in art, producing changing patterns or sequences, for example of sound in music or numbers in mathematics).

Presenting, re-presenting and communicating

Using ICT to:

- share children's ideas and processes (e.g. their designs developed in design and technology);
- exchange information (e.g. using desktop publishing in ICT, PowerPoint presentations in PSHE, communication aids where children have disabilities);
- refine and improve the quality of children's work (e.g. editing text in literacy);
- communicate views and information (e.g. children emailing other children about local environmental issues in geography, screen-capturing the steps and stages when problem solving in mathematics).

Testing and confirming

Using ICT to:

- ask 'What if...?' questions and gather data to test, confirm or refute conjectures (e.g. using datalogging equipment in science to compare the effect of changing one factor at a time in a fair test);
- scrutinise a database (e.g. exploring the impact of changes to a local environment in geography, using a range of ICT-based resources in history to track the effects of changes via images);
- use an interactive teaching program (ITP) (e.g. generating number sequences, shapes or patterns in mathematics leading to a general statement that can then be tested further).

CPD ACTIVITY

Embedding ICT in learning and teaching

Aim

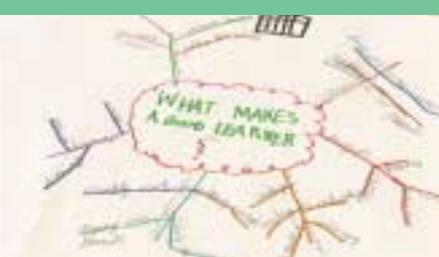
- To consider how to further develop the embedding of ICT in learning and teaching.

Materials

- Medium-term plans.

Organisation

- In pairs, review the use of ICT to date, the successes achieved, and the impact that using ICT has had on the children. Use these discussions to begin to plan the next steps. Look at your medium-term plans for the next half-term and identify where and how you might best use ICT to enhance your work. Set yourselves two goals for how you plan to embed the use of ICT in your teaching during that half-term in one area of the curriculum.
- Regroup and share your goals.
- Use the goals to review the way ICT is to be used to enhance learning and teaching across the school or setting.
- Discuss the following questions:
 - What features of ICT are we embedding into learning and teaching?
 - How will ICT support these aspects of learning and teaching?
 - Are aspects of learning and teaching and areas of the curriculum under-represented?
 - How might we progress the use of ICT to support specific aspects of learning and teaching?
 - Are there examples of good practice we can share and develop?
 - What do we need to do now to ensure that ICT helps us to enhance the quality of learning and teaching for all children?
- Use the discussion to begin to set out an action plan for the future, building on good practice in the school or setting and using the subject and ICT expertise that exists. Agree on how the ICT resources might be made best use of and what ICT CPD support might be needed to help achieve this. Identify what local external support is available and how this might be drawn on. Use the ongoing agreed goals to inform and share a vision of how the school or setting will move forward and what everyone will endeavour to achieve.
- You may wish to refer to and use slides, videos and resources featured in the *Leadership team ICT toolkit* to support and extend this developmental work and the CPD programme.



Other possible CPD activities

- Observe pairs or groups of children undertaking work using ICT. Reflect on what they are doing that they could not do without ICT. Consider how using ICT has enhanced their learning.
- Run a series of practical workshops in which peer tutoring can be used to present ideas for using ICT.



Section 4 Resources

Additional CD-ROM

To complement these materials, a double CD-ROM will be available in the autumn term.

CD 1 *Excellence and Enjoyment: learning and teaching in the primary years*

This contains all the units from this set of materials plus additional materials such as background research papers, further case studies and advice on running CPD sessions. It will be fully searchable through a key word search.

CD 2 *Excellence and Enjoyment: making the curriculum your own*

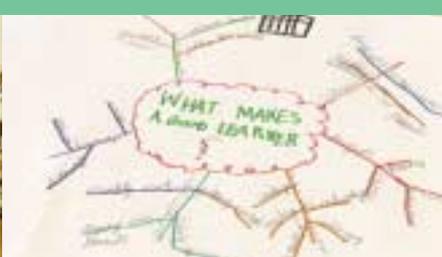
This CD-ROM has been designed as a companion to the *Excellence and Enjoyment: learning and teaching in the primary years* materials. It is intended to help support schools and settings in making the curriculum their own – in designing their curriculum in order to develop key aspects of learning through curriculum subjects, and to promote enjoyment and creativity as important routes to excellence.

This CD-ROM contains an extensive bank of resources and examples (including video material from schools and settings sharing their own ideas and experiences), which are arranged both by curriculum subject and according to the 'key aspects of learning' that are highlighted in the *Excellence and Enjoyment: learning and teaching in the primary years* materials. The aim is to provide resources that can help schools and settings focus on and develop particular areas of their curriculum, and to give ideas about creative teaching approaches as part of a planned process of whole-school curriculum design.

Other resources

Audit tools

- *Behaviour and attendance: in-depth audit for primary schools*, Booklet 2: *Whole-school ethos*. Downloadable from www.standards.dfes.gov.uk/primary/
- *Behaviour and attendance: in-depth audit for primary schools*, Booklet 4: *Continuing to improve the quality of teaching and learning through classroom level factors*. Downloadable from www.standards.dfes.gov.uk/primary/
- *Index for inclusion* (Centre for Studies in Inclusive Education, 2000)
- *Learning for all: standards for racial equality in schools* (Commission for Racial Equality, 2000)



- *Supporting children learning English as an additional language* (revised edition, 2002), Appendix 2 'Supporting pupils learning EAL: Checklist of inclusive practice'. Downloadable from www.standards.dfes.gov.uk/literacy/publications/inclusion/63381/eal_appendices2.PDF

DfES, QCA and PNS publications

- *Behaviour and attendance: developing skills*
www.standards.dfes.gov.uk/primary/banda
- *Curriculum guidance for the Foundation Stage* (QCA/00/587)
- *Developing children's social, emotional and behavioural skills: a whole curriculum approach* (DfES 0759-2003)
- *Emotional health and well being* (DoH and DfES, 2004)
- *Excellence and Enjoyment: learning and teaching in the primary years: introductory guides* (DfES 0344-2004 and 0243-2004)
- 'Guidance for personal, social and emotional development', *National Curriculum handbook for primary teachers in England* (DfES, 2000)
- *The impact of parental involvement on children's education* (LEA/0339/2003)
- *Improving the climate for teaching and learning in the secondary school* (DfES 0349-2003).
- *Learning and teaching for children with special educational needs in the primary years* (DfES 0321-2004 G).
- *Learning and teaching using ICT: leadership team toolkit* (DfES 0369-2004)
- *Literacy coordinators' handbook* (DfES 0284-2002)
- *National Curriculum handbook for primary teachers in England* (DfES, 2000) www.nc.uk.net
- Primary National Strategy ICT CD-ROM, available from Prolog, tel. 0845 6022260 (DfES 0473-2004)
- *Speaking, listening, learning: working with children in Key Stages 1 and 2* (DfES 0627-2003 G)
- *Supporting children learning English as an additional language*, revised 2002 (DfES 0239-2002)



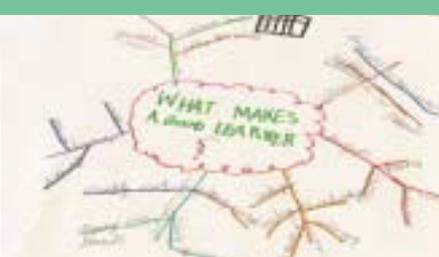
- *Supporting children with special educational needs in the literacy hour Part 3.* www.standards.dfes.gov.uk/literacy/prof_dev
- *Teaching assistants in primary schools: an evaluation of the quality and impact of their work* (Ofsted, 2002)
- *Teaching literacy and mathematics in Year 3* (DfES 0495-2003)
- *Working with teaching assistants: a good practice guide* (DfEE 0148/2000)

Useful websites

- Antidote: campaign for emotional literacy
www.antidote.org.uk
- Becta
www.becta.org.uk and www.ictadvice.org.uk
- Building learning power
www.buildinglearningpower.co.uk
- Campaign for learning
www.campaign-for-learning.org.uk
- National Curriculum in Action
www.naction.org.uk
- Philosophy for children
www.sapere.net
- QCA schemes of work for citizenship
www.standards.dfes.gov.uk/schemes2/ks1-2citizenship/
- Quality circle time
www.circle-time.co.uk
- Reflective teaching
www.rtweb.info

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