Key Stage 3
National Strategy

Literacy and learning in design and technology

Heads of design and technology Departments and teachers of design and technology
Status: Recommended
Date of issue: 10-2004
Ref: DfES 0660-2004 G

department for
education and skills
creating opportunity, releasing potential, achieving excellence
Key Stage 3
National Strategy

Literacy and learning
Literacy and learning in design and technology
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**Introduction**

This CD-ROM is for subject leaders to help them implement literacy and learning in their subject area as part of a whole-school initiative designed to improve teaching and learning and raise standards.

Section 1 introduces the ideas behind the literacy and learning initiative and contains the framework of cross-curricular objectives that is at its heart.

Section 2 outlines ways of working with teachers in the department in order to implement the scheme.

Section 3 explains and exemplifies the cross-curricular objectives in the context of design and technology.

Section 4 contains prompts to assist in the monitoring and evaluation of literacy teaching.

Section 5 is an index of material on the *Literacy and learning* DVD.
Most subject departments have already made good progress in making aspects of literacy part of their teaching. The literacy and learning initiative seeks to take the process a step further by:

- connecting the work of separate departments so that more impact is made on pupils;
- linking literacy explicitly to learning, which is the core business of every teacher.

It does this through setting up a framework of cross-curricular objectives and requiring different subjects to incorporate some of the most appropriate objectives into their teaching (see pages 8 and 9).

**A framework for literacy and learning**

The relationship between good learning and good literacy is complex. On the one hand, literacy skills give pupils access to some very important modes of learning. On the other hand, exercising literacy skills constructively in the context of learning will boost the level of those skills. The framework for literacy and learning is a tool to help schools develop literacy and learning across all departments in a systematic way. It is based on objectives taken from the *Framework for teaching English: Years 7, 8 and 9* (DfEE 0019/2001).

The framework identifies three main areas for development:

- Learning through talk.
- Learning from text.
- Learning through writing.

The framework is based on the following assumptions:

- Literacy skills need to be taught systematically and consistently.
- Pupils should be given regular opportunities to consolidate their literacy skills by using them purposefully in order to learn.
- All teachers in a school must share the responsibility for developing literacy and learning "hand in hand".
- Certain subject areas are better placed to develop certain literacy skills than others.
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<th>Year 8</th>
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<td>Reading for meaning</td>
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<td>R7: Compare the presentation of ideas, values or emotions in related or contrasting texts</td>
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<tr>
<td>Understanding how texts work</td>
<td>R13: Identify, using appropriate terminology the way writers of non-fiction match language and organisation to their intentions</td>
<td>R10: Analyse the overall structure of a text to identify how key ideas are developed</td>
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<tr>
<td>Using writing as a tool for thought</td>
<td>W3: Use writing to explore and develop ideas</td>
<td>W3: Use writing for thinking and learning by recording ideas as they develop to aid reflection and problem solving</td>
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<td>Structuring and organising writing</td>
<td>W10: Organise texts in ways appropriate to their content</td>
<td>S7: Develop different ways of linking paragraphs, using a range of strategies to improve cohesion and coherence</td>
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<td>Developing clear and appropriate expression</td>
<td>S8: Recognise the cues to start a new paragraph and use the first sentence effectively to orientate the reader</td>
<td>W11: Explain complex ideas and information clearly</td>
<td>S3: Write with differing degrees of formality relating vocabulary and grammar to context</td>
</tr>
</tbody>
</table>
Literacy and learning: key skills in subjects

1. Using talk to clarify and present ideas
2. Active listening to understand
3. Talking and thinking together
4. Developing research and study skills
5. Reading for meaning
6. Understanding how texts work
7. Using writing as a tool for thought
8. Structuring and organising writing
9. Developing clear and appropriate expression

All subjects
maths, science, ICT, history, geography, RE, citizenship, art, music, PE, D&T
history, geography, MFL, RE, citizenship
history, MFL
history, geography, D&T, citizenship
RE, maths, MFL, history, science, ICT
geography, art, science, D&T, citizenship
**Understanding the framework**

Each area of the framework divides into three strands:

<table>
<thead>
<tr>
<th>Learning through talk</th>
<th>Using talk to clarify and present ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Active listening to understand</td>
</tr>
<tr>
<td></td>
<td>Talking and thinking together</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Learning from text</th>
<th>Developing research and study skills</th>
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<tr>
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<td></td>
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<td>Structuring and organising writing</td>
</tr>
<tr>
<td></td>
<td>Developing clear and appropriate expression</td>
</tr>
</tbody>
</table>

Each strand has a single objective for each of Years 7, 8 and 9 (see the framework table on page 8). These objectives should be a focus for teaching across the curriculum in each given year and should be linked into departmental schemes of work. The responsibility for teaching the different strands is shared out among the subject areas. See the ‘literacy skills pie’ on page 9, which shows a suggested way of sharing out the objectives.

Of course, all the strands are potentially relevant to learning in all subject areas but the pie model has the advantage of defining which subject areas are best placed to develop certain skills. Also, while ensuring that skills are not taught by one department in isolation, it reduces the overall load for departments because they are not expected to incorporate all of the objectives into their teaching plans. The objectives for design and technology are explained and exemplified in section 3 of this text.

It is important to say that both the framework of cross-curricular objectives and the ‘literacy skills pie’ are offered as suggested models. Through a thorough process of self-review, schools could identify their own sets of objectives or literacy targets linked to identified weaknesses in each year group, and allocate the teaching of these to separate departments. If your school has decided to modify the framework, your literacy coordinator will consult with you on those changes, as it is important that all departments work consistently to the same model so that all objectives are covered and are reinforced for pupils in a number of subjects across the curriculum.

**The three main areas of the framework**

Learning through talk

‘As pupils use talk purposefully in their learning, they become more competent communicators, more aware of, and knowledgeable about, the medium they are using.’

Hillary Kemeny, Ed., *Learning together through talk, Key Stages 3 and 4*, Hodder and Stoughton, 1993
Speaking and listening (talk) takes place in classrooms in a range of contexts and for a range of purposes. Sometimes the emphasis is on presentation. Here, one or more people are the presenters and the role of the others is to listen and perhaps respond at an agreed time. At other times, there is an expectation that there will be a constant interchange between speakers and listeners, such as when groups of pupils are discussing the solution to a problem which they have been set.

Talk can contribute to learning in three main ways:
- Through purposeful speaking and listening, pupils come to understand new information by connecting it with what they already know.
- The process of striving to express ideas in words, or striving to grasp the spoken ideas of another, helps to clarify and confirm understanding.
- Talking together in discussion is an interactive process, which allows an individual’s understanding to be extended, challenged and enriched.

Learning from text

‘When reading for learning, the actual process can be thought of as comprising five phases: decoding, making sense of what is said, comparing this with what one knows already, making judgements about this material and, finally, revising one’s ideas. … But all too often the process stops at the second phase …’

Lunzer and Gardner, Learning from the written word, Longman, 1984

Because of advances in technology, today’s pupils have greater access to more text in more forms than ever before. Moreover, recent international surveys have shown English pupils to be amongst the best readers in the world. Yet, paradoxically, teachers’ expectations of the extent to which pupils can learn from text are sometimes low. This can lead to:
- a reluctance to ask pupils to read;
- an increase in workload as teachers seek to mediate all new information to their pupils in other ways;
- a decrease in the ability and willingness of pupils to engage independently with text.

A consistent approach to promoting active and independent reading will, however, bring benefits to all subject areas as pupils begin to learn more effectively from text by:
- developing strategies for identifying texts that contain relevant information, and then using that information for a purpose;
- close reading of text for understanding – not merely decoding but making sense of what is written and connecting it with what is known already;
- understanding the overall purposes and structures of texts.

Learning through writing

‘… it (writing) gives us time and opportunity for reflection. The words are not gone as soon as spoken, but are before us on the page for consideration, and this enables us to deal with more complex ideas and the relationships between them.’

Andrew Wilkinson, Ed., The writing of writing, OUP, 1986
Whenever writing takes place, there is always a purpose and an intended reader. Sometimes we write for ourselves and, in this case:

- writing helps in the capture and development of thoughts and ideas, because it leaves a record that can be returned to, considered and modified.

At other times, we write with the intention of communicating to others, which contributes to learning because:

- communicating in writing clarifies, confirms, even transforms understanding through a complex process of:
  - linking ideas and pieces of information and organising them logically;
  - ‘wrestling’ with words to form clear, meaningful sentences.

Recording is an important purpose for writing, but high-quality writing tasks will be designed to have a learning outcome as well. A consistent approach to teaching writing across the school will boost the quality of both pupils’ learning and writing.
Implementing literacy and learning in design and technology

The aims of the literacy and learning initiative are to:

- raise standards of literacy across the school;
- improve the quality of learning across the school;
- extend, sustain or revive previous work on literacy across the curriculum.

The role of the subject leader

Literacy and learning is a whole-school improvement initiative. Once the scheme has been introduced to the school's staff, it must be taken forward in subject departments. The role of the subject leader or head of department is crucial and includes:

- reviewing schemes of work to incorporate the literacy objectives;
- contributing to the professional development of members of the department by identifying relevant training and/or facilitating coaching arrangements to ensure that subject teachers have a good understanding of the objectives and are confident about teaching them;
- participating in monitoring and evaluation activity.

Subject leaders can best fulfil these roles in partnership with senior leaders, the school literacy coordinator and departmental colleagues.

Reviewing schemes of work

The literacy and learning framework should not have any implications for the content of the department’s scheme of work, but it may well have implications relating to teaching approaches. The main aim of the review is, therefore, to identify areas of work that lend themselves to the incorporation of a literacy objective alongside the subject objectives. The aim is to improve learning in the subject and literacy ‘hand in hand’. It would be helpful to approach the review in four steps:

1. Identify the objectives assigned to your subject by using the framework and the ‘literacy skills pie’.
2. Become familiar with these objectives by looking at the exemplification in section 3 of this text.
3. Identify areas of the scheme of work where the objectives fit best.
4. Identify any changes of teaching approach that may be required for the aim of improving learning and developing literacy. Section 3 of this Literacy and learning CD-ROM includes ideas for a range of teaching approaches linked to the objectives.

Developing the department

During the process of identifying objectives and reviewing schemes of work – a process that will undoubtedly involve consultation with members of the department – aspects of literacy teaching may be identified as problematic for some or all colleagues. It may be that certain objectives are not well understood, or that individual teachers are not confident with particular teaching approaches. It may be that inexperienced colleagues require training on an aspect of literacy, or that more-experienced colleagues feel they need an update. Whatever the situation, the subject leader should identify the training needs in the department. Ultimately, the impact on pupils’ literacy and learning in the subject will depend on the quality of the teaching, so it is important that provision is made to ensure
that all colleagues have the opportunity to fill any gaps in their professional knowledge and understanding.

The *Literacy and learning* pack provides a wealth of training resources that can be used to support the professional development either of the whole department or of particular individuals within it. The table below lists these resources showing where they can be found and how they may best be of use.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Where to find it</th>
<th>Recommended uses</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Literacy and learning DVD</em></td>
<td>The school has one copy which will be with either the Key Stage 3 Strategy manager or the literacy coordinator.</td>
<td>The DVD may contain an example of teaching which the whole department could discuss, or, alternatively, it could be viewed by one or two colleagues for whom it is particularly relevant.</td>
</tr>
<tr>
<td><em>Literacy and learning in design and technology CD-ROM</em></td>
<td>In the <em>Literacy and learning in design and technology</em> booklet.</td>
<td><em>Literacy in design and technology</em> (for in-school use and self-study) is a useful resource for any teachers who were unable to benefit from the literacy in design and technology training provided recently by LEAs. For example, it can provide material for a departmental meeting with a focus on active reading strategies. It is particularly useful for individual teachers to use as a study aid to fill a particular knowledge gap.</td>
</tr>
<tr>
<td><em>The Literacy and learning in design and technology booklet.</em></td>
<td>Guidance for subject leaders – an abridged version of this text.</td>
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</tbody>
</table>
There are also other resources and strategies which subject leaders can use to support the professional development of their departmental colleagues. A full index of Key Stage 3 Strategy resources relating to literacy is available in Appendix 3 of Literacy and learning: Guidance for senior leaders. Many of these publications are already in school or they can be ordered from DfES Publications or downloaded from the Key Stage 3 Strategy website (www.standards.dfes.gov.uk).

Although publications are very useful for updating knowledge and understanding, research suggests that it is important for teachers to receive support when applying any new teaching approaches in their lessons. Subject leaders may be able to offer help in this respect by demonstrating aspects of teaching, by team teaching, or by observing teaching and giving feedback. LEA consultants and colleagues in school may be able to offer support of this type as well. Another strategy is coaching, where pairs of teachers work together to improve an aspect of practice. This is described in the Key Stage 3 Strategy publication called Sustaining improvement, a suite of modules on Coaching, Running networks and Building capacity (DfES 0565–2003 G).

**Monitoring and evaluation**

Improvements in pupils’ learning and their literacy skills will only be secured and sustained if subject leaders monitor and evaluate the planning and teaching in their department. Senior leaders also have a role to play in monitoring and evaluating the impact of the whole-school initiative, so the two processes should be coordinated.

The particular role of the subject leader is to:

- monitor that any changes incorporated into the department’s planning are being implemented in classrooms;
- judge the effectiveness of the implementation in both planning and teaching;
- offer support to bring about improvement, where appropriate.

An aid to judging the effectiveness of the teaching of cross-curricular literacy objectives can be found in section 4 of this text. This is a series of prompts, which help to focus the process of observation and feedback.

This Literacy and learning in design and technology CD-ROM provides helpful materials for supporting colleagues. Other useful sources of ideas are:

- the Literacy and learning DVD which is in school (see section 5 of this booklet);
- other material previously published by the Key Stage 3 Strategy (see the guide in Appendix 3 of Literacy and learning: Guidance for senior leaders);
- Sustaining improvement, a suite of modules on Coaching, Running networks and Building capacity (DfES 0565–2003 G).
Explaining and exemplifying the objectives

This section of the text contains an entry for each cross-curricular literacy objective that is assigned to design and technology.

The cross-curricular objectives exemplified for design and technology are:

Learning through talk
- Using talk to clarify and present ideas
- Active listening to understand
- Talking and thinking together

Learning from text
- Developing research and study skills

Learning through writing
- Using writing as a tool for thought
- Developing clear and appropriate expression

Each entry has three sections:
- About this objective – which explains in general terms what is meant.
- What to teach – which explains key points that will need to be taught if the objective is to be met.
- Teaching approaches – where the teaching of the objective is exemplified with ideas that can be applied directly to classroom teaching.

The objectives are organised by Year and by aspect.

| Year 7       | Learning through talk  |
|             | Learning from text     |
|             | Learning through writing|

| Year 8       | Learning through talk  |
|             | Learning from text     |
|             | Learning through writing|

| Year 9       | Learning through talk  |
|             | Learning from text     |
|             | Learning through writing|
Year 7

Learning through talk: using talk to clarify and present ideas

Year 7 objective: Use talk as a tool for clarifying ideas, e.g. by articulating problems or asking pertinent questions.

About this objective
This objective develops the use of talk as a tool for developing thinking. It is likely to be taught in the context of problem solving, planning a project or discussing an issue. It needs to be taught in a range of contexts and is clearly a cross-curricular objective. The objective requires pupils to listen closely and contribute effectively to talk through building upon, questioning and challenging the points made by others.

What to teach
- How to begin by defining the task, e.g. ‘Right, so what have we got to do?’. Specific problems or difficulties should be outlined before and during the task, e.g. ‘We don’t understand the bit where …’.
- That talk is likely to be tentative, e.g. ‘Perhaps what the designer wanted to achieve was …’. Points will be expressed in a more informal register than, for instance, a prepared pupil presentation.
- How to signal new ideas or assertions, e.g. ‘Well, another way of looking at it would be …’. Reiteration may be marked by phrases such as ‘Anyway, I still think …’.
- How to ask speculative questions, e.g. ‘What do you think would happen if …?’.
- How to make connections between ideas, e.g. ‘So if this component does … surely the effect will be …?’.
- How to work cooperatively, supporting each other’s positive points through affirmatives, e.g. ‘Brilliant! That’s a really good idea!’, and elaborating on comments, e.g. ‘Yes, and there’s another example in this product …’.
- How to take turns in both whole-class and small-group work. Alert listeners to the need to judge the right moment in which to contribute, and remind speakers of the importance of letting others join in.
- How to counter or challenge ideas and offer supporting evidence, e.g. ‘Yes, but on the other hand …’.
- How to manage discussion as it proceeds, by occasionally taking stock, e.g. ‘Right, so we’ve agreed that …’ before proposing the next step ‘So now we need to …’.

Teaching approaches
- Provide opportunities for discussing interesting and challenging design ideas, such as journals, annotated sketches or finished products. Provide a range of groupings over time: pair, small group, whole class. Make sure that tasks are open-ended, such as ‘What do you think users’ needs are?’. They may include problem solving, such as ‘Design a hand-held snack.’, and decision making, such as ‘What are the common design features of this range of toys?’.
- During group discussion work, intervene to ask clarifying questions, offer new information, monitor progress or move things forward. For example, ‘Have you thought about the effect on the output if the input …?’, ‘So what do you think about your design idea so far?’, ‘So your next step will be to …’.
Praise effective contributions during small-group and whole-class work, e.g. ‘Sam, that’s brilliant because you’ve …’. Comment constructively on how unhelpful comments could be improved. Remind the class of positive features identified at the outset, such as taking turns, cooperative signals, positive ways to express disagreement, bringing in less-confident group members, taking stock and asking pertinent questions, e.g. ‘Why has the material reacted in that way?’ or ‘How could we prevent this happening?’.

Ask pupils specific questions at critical points and seek elaboration to ensure clear, logical answers. Constructively challenge inconsistent, woolly or ambiguous points. Capitalise on hints of penetrative thinking by asking further questions or offering a supportive comment, e.g. ‘So this means you think that …’.

In whole-class discussion, periodically sum up the discussion so far. Note key points or sticking points on the whiteboard and suggest fruitful next steps.

Encourage notes and diagrams to help thinking during discussion. Explain de Bono thinking strategies to support specific types of discussion, for example, do a CAF (Consider All Factors) to generate a list of factors which may influence a decision, or a PMI (Plus, Minus, points of Interest) to itemise the advantages and disadvantages of an idea. Stop the lesson and ask for five minutes of ‘Red hat thinking’ (emotional responses) about pupils’ own or their peers’ design ideas.
**Year 7**

**Learning through talk: active listening to understand**

**Year 7 objective:** Listen for and recall the main points of a talk, reading or television programme, reflecting on what has been heard, to ask searching questions, make comments or challenge the views expressed.

**About this objective**

This objective requires sustained listening and response in a variety of contexts. The objective is a good cross-curricular focus, requiring pupils to develop listening skills using common techniques. It links closely with note-making skills and the ability to retain or record relevant information. Providing note-making grids can support pupils by giving more detailed prompts for those who need them. The *Literacy across the curriculum* (DfEE 0235/2001) training file provides strategies to support note making (module 8: Listening, and module 9: Making notes).

**What to teach**

- How to recognise the main organisational features of different types of spoken texts. For example, a DVD or video about the commercial manufacture of synthetic fibres and fabric may start with an overview of what the viewer will see and hear, then raise a series of issues about the need for synthetic fibres and fabrics, and finally end with an overview of uses which possibly raises ideas for developments in manufacture and future uses. Knowing about the structure of the DVD or video in advance will help pupils to listen out for relevant information.

- Specific phrases which signal to the listener that a key point is about to be made, e.g. ‘Another design feature …’, ‘Furthermore it could be used to …’, ‘So how much does it cost …’, ‘To sum up, without this product we would not be able to …’. Knowledge of these oral markers will help pupils to recognise when key points are about to be made.

- How to prepare in advance for a listening task, e.g. preparing questions that you want the answers to, making notes based on prior knowledge, anticipating key points or identifying a specific piece of information to listen out for.

**Teaching approaches**

- As a starter activity at the beginning of a new unit, ask pairs of pupils to think about why listening is important in school and in D&T. Provide a simple two-column handout for them to gather ideas. For example:

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening well</td>
<td>Not listening well</td>
</tr>
</tbody>
</table>

Discuss this with the whole class before asking pupils to carry out a simple listening task, for example, in pairs, with one talking and the other listening to a set of simple instructions about how to construct a Lego model. The listener should make the model while the talker observes/judges the quality of the construction.

- Before important listening work, work with pupils to analyse the organisational features of the type of material which they will encounter:
  - If it is a talk by you, a pupil or a visiting designer, ask the class how the speaker
could have organised his or her notes. Ask what the main headings might be and what the implications would be for listeners.

– If you are about to read a design journal or a product specification, explain how it is organised, for example, initial ideas followed by annotated sketches and descriptions of materials, or essential criteria and desirable criteria.

– If you are about to use a series of short television programmes about product design, explain to the class that either each one has the same format, or that the specific programme which pupils are about to see has some common sections with the other programmes, but also sections relating to a specific product which are different from the other programmes in the series.

Provide pupils with a short list of helpful phrases which may guide them towards key information. For example, if pupils are watching a video about biscuit manufacture, the narrator may signal moving on to another aspect with a question such as ‘So what kind of ingredients form a basic biscuit…?’ or a phrase such as ‘Another important feature of commercial manufacture is …’. Preview the programme yourself and give actual examples.

Build in follow-up tasks that depend on focused listening. Explain to the class what they should do while listening and what they will do afterwards with the information obtained. Present the task on a handout in the same way that you would a writing task. Examples of follow-up tasks are:

– in pairs, give a presentation on the key points of one part of the talk, reading or programme, and also give your views on a particular aspect;

– write a review of how the ideas which you got from a visiting designer will influence your own design ideas.

Demonstrate different kinds of diagrammatic note-making, such as flow charts and star charts. Explain their use and model examples of when each method would be most successful.

Encourage pupils to challenge views by providing them with a ready-made list of bulleted key points in one column and a column alongside for What you think and Why (or Agree/disagree and Why).

Give pupils opportunities to ask questions, make comments and challenge views during listening work: stop the video or presentation and ask for comments. Alternatively, ask pairs to discuss their views for 30 seconds, and then take a few comments before continuing the task.
**Year 7**

*Learning through talk: talking and thinking together*

Year 7 objective: Identify and report the main points emerging from discussion, e.g. to agree a course of action including responsibilities and deadlines.

**About this objective**

This objective requires pupils to report the main points from discussion in a variety of ways, e.g. to another group, to the teacher or to the class. Speaking frames or sentence-starter oral prompts could be given to support pupils in structuring their report-back. Pupils will probably need to make notes of key points as an *aide-memoire*. Teacher modelling or note-making frames may provide useful support. Teachers could also use pupils primed for the task to model reporting back key points for the rest of the class.

**What to teach**

**Identifying main points**

- Adjectives to convey importance, e.g. *main, key, significant, important, crucial*.
- Adverbs to convey intensity of feeling, e.g. *strongly, firmly, surely*.
- Adverbials at the start of sentences to gain attention or establish control, e.g. ‘Right …’, ‘So …’.
- Connectives to signal opposing views, e.g. *but, conversely, alternatively*.
- Connectives to summarise views, e.g. *therefore, so*.
- Connectives to indicate a sequence of ideas, e.g. *firstly, secondly, thirdly, next, then, also*.

**Reporting main points**

- Orientating the audience by giving the context of the discussion, e.g. ‘Our group was discussing …’.
- Itemising the main points using the first person plural, e.g. ‘First of all we agreed that …’ and giving reasons ‘This was because …’.
- Signalling movement to the next point, using an introductory sentence stem or connective, e.g. ‘Our second point was …’, ‘Secondly…’, ‘Next …’.
- Concluding the report clearly, e.g. ‘Thus, our view is …’ or ‘Therefore, we felt …’.
- How to make brief notes to support oral feedback.
### Language associated with roles adopted

<table>
<thead>
<tr>
<th>Phases of discussion</th>
<th>Chairperson</th>
<th>Group members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiate discussion</td>
<td>‘Right, we need to decide …’</td>
<td>‘I think we need to … because …’</td>
</tr>
<tr>
<td></td>
<td>‘Does anyone have any ideas about …?’</td>
<td>‘What about …?’</td>
</tr>
<tr>
<td>Generate ideas</td>
<td>‘Go on …’, ‘Yes, I agree because …’, ‘What then …?’</td>
<td></td>
</tr>
<tr>
<td>Express support for others</td>
<td>‘I feel strongly because …’, ‘But don’t you think we need to … because …?’, ‘But surely we also want to include …?’, ‘What about Jane’s alternative?’, ‘But surely that was more important because …?’</td>
<td>‘Do you see what I mean?’</td>
</tr>
<tr>
<td>Discuss different viewpoints</td>
<td>‘Right, we need to agree on the main points … Would anyone like to suggest …?’</td>
<td>‘Surely one of our main points was …?’</td>
</tr>
<tr>
<td>Check understanding</td>
<td>‘Okay, so we need to decide who is going to do what …’</td>
<td>‘Several people felt strongly that …’</td>
</tr>
<tr>
<td></td>
<td>‘Right, who would like to …?’</td>
<td>‘I would like to …’</td>
</tr>
<tr>
<td></td>
<td>‘John, do you think you could get that done by …?’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘Right, let’s summarise our decisions … Shall I sum up what we’ve agreed?’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘The group decided that …’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘Let’s run through the main points we’ve agreed …’</td>
<td></td>
</tr>
</tbody>
</table>

### Teaching approaches

- **Model the identification of key points arising from whole-class discussion with pupils.** When pupils have not had much experience of this, provide a form with headings for support (main points, actions, responsibilities, conclusions). Model how to use this effectively. Draw explicit attention to how to summarise and report back succinctly, for example, when feeding back to the whole group on a product analysis activity.

- **Conduct a whole-class discussion based around the function of an unfamiliar household product (possibly an historic version).** Appoint a small group of pupils to act as observers, and explain that their job is to note suggestions and then to
summarise and report back a considered verdict on the function of the product. Show pupils extracts from the QCA *Exemplification of standards* video, as an example of a group discussion, so that pupils can observe it and practise their skills of summarising and reporting. Provide opportunities for pupils to compare and discuss their design ideas and portfolios as well as their finished products.

- Ask pupils to conduct some research, in groups, for example, about the dietary needs of young children, or into planning a production run to manufacture 50 pencil cases. After a planning session, they should report back about progress, next steps, roles, responsibilities and deadlines during design and manufacture.

- Provide opportunities for pupils to give feedback in a range of ways, for example, using an envoy, jigsaw groups, reporting back to the class, visual representations and displays of ideas and products.
Learning from text: developing research and study skills

Year 7 objective: Use appropriate reading strategies to extract particular information e.g. highlighting, scanning.

About this objective

Pupils need to be taught how to use the full range of reading strategies in order to access subjects across the curriculum. Teaching needs to include opportunities for pupils to experiment with ways of reading for different purposes. Close attention is needed on how to extract specific information from texts. Pupils must be provided with opportunities to hone skills such as skimming, scanning and close reading, both in English and in other subjects. Note-making skills should be modelled and practised. Note-making formats should be used.

What to teach

The main reading strategies which develop efficient reading and focus on the important features of a text:

- **Skimming** – glancing quickly through a passage to get the gist of it, e.g. looking through a newspaper to see what is worth reading, or glancing at subheadings in a book.

- **Scanning** – searching for a particular piece of information, e.g. looking up a phone number, finding a date or a fact in a longer piece of text.

- **Close reading** – careful study of a text, including pausing to think or look back in order to examine the text in detail.

The following range of activities support these reading strategies: highlighting, text marking, sequencing, annotating, text restructuring, labelling and cloze exercises.

Teaching approaches

- Give out a piece of text, for example, an advertising leaflet or a product-information sheet with both text and images. Ask pupils, in pairs, to take it in turns to find three things which they find interesting in the documents. Each pair should then feed back to the whole class. Annotate a large copy of the text to illustrate the range of pupils’ responses, e.g. layout (heading/title, caption, image, colour, font size or style, etc.), language (key words, alliteration, familiar or unfamiliar vocabulary, similes) and structure (use of introduction, topic sentences, conclusion). Use another copy of the enlarged text or an OHT version to model some of the reading strategies that pupils used. Articulate the strategies as they are demonstrated. For example:

  ‘I want to get a sense of what this is about so I am glancing over the whole text quickly to get a feel for it. This is called skimming and it helps me to develop a general understanding of the text.’

  ‘I’m focusing on the headline and first lines, because they are large and in bold print. They attract my attention, which suggests that they are important.’

  ‘The image is large and has a caption which summarises its purpose. It has been included to help me understand and, therefore, must be important.’

  Confirm with pupils how they made their choices.

- Demonstrate scanning using the same text as above or, if more appropriate, select an interesting encyclopaedia entry on a well-known designer or engineer. Model
looking for a particular piece of information on an OHT or enlarged text. Articulate the process of scanning by showing what clues there are for finding specific information. For example:

‘I want to find out who this designer worked with. Therefore, I need to look for a name, which is a proper noun, so I’m scanning for capital letters.’

‘I’d like to find out what designing techniques they used, so I am scanning the text for verbs … This could be an explanation and involve a number of stages.’

‘When did she first …? I’m now scanning for times or dates.’

‘Why did she…? That’s a little more difficult as I’m searching for reasons so I need to look a little closer… I may need to read between the lines.’

Demonstrate the roving eye movements across the passage. Use your finger to show how your eyes are going through the text at a pace without reading everything.

- Ask pupils, in pairs, to create questions based on a text. The partners should then answer each other’s questions. This could be a short-burst timed or starter activity. Build in time to allow pupils to explain how they were guided to look for particular information.

- Give groups of pupils the same text but with a different focus for retrieving pertinent information, e.g. highlighting the arguments for or against irradiating food, the advantages or disadvantages of a protective coating on fabric, or the causes or effects of mobile phone design. The groups should then present their findings to each other.

- Model text-marking in two different colours, e.g. two different points of view, different examples, fact and opinion.

- Model highlighting key words, points or phrases using highlighter pens or different coloured pencils.

- Use ICT to support teaching strategies. Use the highlighter function in the same way as a pen, then delete unwanted text using the ‘find and replace’ function. Present pupils with an information text on screen. The task is to reduce the text to 50 words without losing the main points.

- Give pupils sentence prompts in a plenary to consolidate the learning strategy, for example, ‘We found our information this way’, or ‘The best strategy we used was … because it helped us to …’.
**Year 7**

*Learning through writing: using writing as a tool for thought*

**Year 7 objective:** Use writing to explore and develop ideas, e.g. journals, brainstorming techniques and mental-mapping activities.

**About this objective**

This objective recognises that:

- Writing can record ideas so that they are not forgotten and can be returned to for reference, further thought and development.
- The process of recording a thought in writing often clarifies or strengthens it, or even exposes it as less coherent than it seemed when first thought or spoken.

This kind of writing is not generally meant to communicate to a wider audience; it is more likely to be part of notes, jottings or plans that could underpin another piece of writing, a spoken presentation, the solution to a problem or a practical task. It may, however, not be written for just the writer to read if, for example, it is in the context of a group task. The purpose of writing like this is to capture ideas and possibilities and to develop them by clustering, making links, deciding on sequences, ranking for importance, and making some additions and deletions. The ideas are also captured so that they can be questioned and evaluated.

**What to teach**

- That sometimes writing can be ephemeral and exploratory. If designing journals and D&T project folders are always seen as only for neat work, and not for generating and developing design ideas, then it will be difficult to cultivate writing to explore and develop ideas.
- A range of techniques for jotting down ideas for further work and evaluation, so pupils can begin to select those that suit them and the task best.
- How to use ‘brainstorms’, mind-maps, annotations and other ways of capturing thoughts and ideas, and how to change and cluster these ideas to develop them further.
- How to modify design notes in the light of discussion and experience.
- Formats for jotting down ideas and sharing ideas and approaches with the class.
- How to use part of the designing journal for reflection, and how to write regularly to record, question and reflect on their learning.

**Teaching approaches**

- Ensure that there are opportunities to explore and develop ideas through writing. Provide a range of groupings over time, such as pair, small group, whole class. Tasks can be open-ended, such as ‘What do we need to find out?’; ‘Can you explain what happens when...?’ or restricted, focusing on one particular aspect. For example, ‘Explain why a particular ingredient will thicken a sauce’, or ‘Describe how to construct a functional holder for a plastic cup’.
- Encourage pupils to jot down initial ideas when solving problems or writing explanations. Ask pupils to talk in pairs or small groups and record their ideas either in designing journals or on mini whiteboards.
- Use envoy, rainbow or jigsaw techniques (from *Literacy in design and technology* (DfES 0050/2002) module 2: Speaking and listening, handout 22, ‘Strategies for...')
making group discussion purposeful and promoting a range of speaking and listening) when using group work, so pupils’ recording has a purpose.

- Model using mind-maps or writing frames to identify starting points to solve a design problem. For example, Design and make an environmentally friendly shopping carrier for someone in your local community.

**An example of a mind-map**

Where is my local community?
Who lives there?
What about shops and businesses?

What do I know already about carrying devices (list, collect, analyse)? Record my ideas.

What do I know about being environmentally friendly and how can I find out more?

What materials are available? How much money and time do I have?

What skills do I have? What do I need to practise, or need some help with?

**Design and make an environmentally friendly shopping carrier for someone in your local community.**

**An example of a writing frame**

<table>
<thead>
<tr>
<th>Design and make an environmentally friendly shopping carrier for someone in your local community.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where is my local community? Who lives there? What about shops, businesses?</td>
</tr>
<tr>
<td>What do I know already about carrying devices (list, collect, analyse)? Record my ideas.</td>
</tr>
<tr>
<td>What do I know about being environmentally friendly and how can I find out more?</td>
</tr>
<tr>
<td>What materials are available? How much money and time do I have?</td>
</tr>
<tr>
<td>What skills do I have? What do I need to practise, or need some help with?</td>
</tr>
</tbody>
</table>
Articulate the thought processes required for deciding the questions. Ask pupils to consider which technique they find most helpful.

- Model how mind-mapping or writing frames can be used to capture thoughts and processes. Ask pupils to work on the same problem and add to the mind-map or writing frame. Produce a class or group report. Act as a scribe and take suggestions from individuals about what to write next. Encourage pupils to discuss, assess and amend suggestions. Use large sheets of paper and a marker pen, so that the report can be kept and displayed.

- As a class, produce a summary of how pupils would explain to another class different ways of jotting down ideas. This summary could be constructed from the feedback from several plenary sessions.

- Encourage pupils to develop their own designing journal, where they should write explanations and descriptions in their own words about, for example, how to construct a board game or the properties of a mobile phone. Pupils could also describe how they have solved problems or how they have met the design criteria.
**Year 7**

**Learning through writing: developing clear and appropriate expression**

**Year 7 objective:** Recognise the cues to start a new paragraph and use the first sentence effectively to orientate the reader, e.g. when there is a shift in topic, viewpoint or time.

**About this objective**

This objective builds on and reinforces what has been taught in Key Stage 2. Pupils need to understand and apply the different conventions of starting new paragraphs in fiction and non-fiction. The objective has two parts: recognition in reading and application in writing. This objective links with other objectives relating to the organisation of writing and should be taught as part of the sequence for writing.

**What to teach**

- Cues to start a new paragraph in non-fiction:
  - A change of topic.
  - To make a new point within a topic.
  - A change of time.
  - A change of viewpoint.
- That speech markers such as *anyway* and *right* often signal a new topic in speech. Rather than writing these words, pupils should try a new paragraph.

**Teaching approaches**

**Teaching through reading**

- Show a text on an OHT which is significant for the scheme of work, and ask pupils to code the start of each new paragraph, for example, a change of topic or a new point within a topic. Then look at the function of the first sentence in each paragraph. Discuss how it alerts the reader to the fact that there has been a shift in the subject matter.
- Select a text held electronically (e.g. from the Internet) that is relevant to the scheme of work. Modify it to take out the paragraphing. Ask pupils to identify where paragraphs should start, and why. Support uncertain pupils by saying how many paragraphs are needed.
- Identify the ways in which paragraphs signal and reflect the structure of the text. For example, a D&T text may distinguish between mass-produced and hand-made items, and allocate one paragraph to each type of production. A product-information leaflet may give an overall description and provide an analysis of the product from a variety of different aspects, for example, materials, dimensions, who it’s for, etc.

**Teaching through writing**

- Gather ideas, decide which ones to keep and which to reject, and decide on an organising principle, for example, most important criteria first, or financial information last. Have one main point plus illustrations of that point per paragraph. Show how to organise the sequence and model how to write the opening sentence for each paragraph.
To accommodate different levels of ability in the class, vary the complexity of the planned text, require completion of part of or all of the text, and encourage experimentation with different paragraphing methods to see which is the most effective.
Learning through talk: using talk to clarify and present ideas

Year 8 objective: Provide an explanation or commentary which links words with actions or images, e.g. a sports commentary or talking to a sequence of images.

About this objective

This objective focuses on the way that the spoken word is often linked to actions or images in a range of contexts. For example:

- The demonstration of a practical skill or process where the commentary is designed to explain and inform.
- A documentary film where the voice-over communicates the meaning in parallel with the visual images.
- Communicating information to an audience using pictures or slides.
- Speaking stimulated by a series of still images, as in telling the story or explaining the process portrayed by a series of pictures in a book.

Pupils need to develop their ability to explain in words the actions which they are taking when involved in practical activities, in order to demonstrate their understanding and their ability to reflect on and evaluate their work. There is also an important link with media objectives, because it is important for pupils to be able to read images and comment on them. Linking words with visual images is also an effective way of making a presentation to an audience. This objective builds on the Year 7 objectives, because explaining and commentating develop the skills of summarising and reporting. It involves pupils in understanding the ways in which words can support and explain pictures, summarise the content and/or interpret pictures to influence the audience.

What to teach

- How to provide a spoken commentary on a sequence of your own actions, in order to inform, explain, or evaluate, e.g. a pupil explaining the process of putting in a zip.
- How to make a commentary coherent by considering the sequence of points and how they can be linked.
- How to select images that will best enhance a presentation.
- How to draw attention, perhaps by annotation, to particular aspects of the images that are of most significance.
- How to consider the needs of the audience (e.g. their likely prior knowledge or previous experience), so that the commentary will be clear and informative.
- How to listen to a commentary and compare it with the visual image that they are watching.
- How to use short clear sentences for maximum effect, and at what point to say them when the image is moving.
- How to match tone of voice to the images and the purpose of the commentary, e.g. sympathetic or enthusiastic.
- How to use gesture and facial expression to enhance the impact of the spoken commentary when demonstrating an activity or making a presentation.
Teaching approaches

- Set pupils the task of producing a visual (no words allowed) storyboard for an everyday action, e.g. making a cup of tea or making a call from a public phone box. Pupils should then present the storyboard, together with a spoken commentary, to a partner or a group, matching their words to the frames they have drawn. Alternatively, pupils could provide a spoken commentary to a sequence of textbook pictures which illustrate a process.

- Where pupils are learning how to do a practical task (e.g. making and drilling holes in a PCB or tacking and securing a hem or seam in textiles), ask a number of them to demonstrate the task while giving a commentary explaining what they are doing, what the difficulties are, how they are trying to overcome them and so on. It is important to model this activity first.

- Ask pupils to explain how to play a travel game which they have designed and made (or a familiar or well-known game). They should include an element of demonstration in their explanation, linking their words to game-playing action, e.g. ‘So the first player picks up a card like this and then puts it here …’.

- Ask pupils to prepare a simple PowerPoint presentation as an evaluation of their project work. Say that it should include the stages they went through, what they did well and any problems they encountered. Also say that their presentation should include digital images of their design work, work in progress and final outcome. Encourage pupils not to use scripts in their presentations, but to speak using the slides as the stimulus for their spoken words.
Year 8

Learning through talk: active listening to understand

Year 8 objective: Listen for a specific purpose, paying sustained attention and selecting for comment or question that which is relevant to the agreed focus.

About this objective

This objective requires pupils to listen with a purpose, selecting relevant information. By Year 9, pupils are being asked to listen for implied meaning. In Year 8 they are expected to listen for a detailed understanding of content and to focus on specific areas for comment. Focused, sustained listening is a skill that many pupils need to develop. The objective is a good cross-curricular focus, requiring pupils to develop listening skills in a range of contexts, using common techniques. It links closely with note-making skills and the ability to retain or record relevant information. Note-making grids can support pupils by providing more detailed prompts for those who need them.

What to teach

- How we listen in different ways for different purposes. When listening to the football results on the car radio, we may be very focused – waiting for a mention of a particular team’s results. Listening to friends talking about what they did at the weekend will be different – picking up the general drift of what several people did. Pupils also need to know that in school lessons they should listen in different ways for different purposes, such as listening out for specific information (e.g. noting the names of specific parts of the production process in a manufacturing video), or listening carefully in order to carry out a follow-up task (e.g. writing a hazard analysis of each stage of the process).

- How to spot the clues indicating that relevant information is about to be provided which needs to be recorded. A television programme or video, for example, may be divided into subsections with helpful captions. A well-prepared speaker, such as a designer or engineer, may signal movement from point to point with phrases like ‘Another designing strategy we use …’, or ‘We solved this problem by …’.

- How to listen out for and select relevant information, identifying key words and phrases such as context, specification, sensory analysis, etc.

- How to use note-making skills to record key points quickly and efficiently. For example:
  - use bullet points or leave a space between points;
  - use abbreviations;
  - note key words and phrases;
  - underline important points;
  - use diagrams and charts.

- How to comment on or question the material they are listening to.

Teaching approaches

- Before an important listening task (e.g. demonstrating or modelling a skill or process), ensure that pupils know exactly what they should be focusing on, what they should be doing while listening and what they will do with the information afterwards. Note the task on the whiteboard, an OHT or task sheet.

- Revise note-making skills, such as the use of abbreviation, by modelling important skills on the whiteboard or an OHT. For example, ask a pupil to explain the
processes which they went through when designing and making their wallet in textiles and note down their key points as they do. As you work, talk about the decisions you are making and the note-making techniques being used. Alternatively, do the same with a short video sequence about a new ‘smart’ material, but prepare some notes in advance!

- Show pupils examples of different types of notes, such as pyramiding, tree diagrams and timelines. Ask them to identify when each would be useful. Demonstrate their use, then ask pupils to try different techniques themselves. Look at some pupil examples on an OHT and give feedback on how to make notes more effectively.

- During listening, stop the programme or talk and ask for oral comments and questions. Give a couple of minutes for pair talk and noting of points, then take comments. This will help you to monitor understanding and allow pupils to give their views or seek clarification. Do the same at the end.

- Encourage explicit pupil comment or questioning by providing a grid. For example:

<table>
<thead>
<tr>
<th>Key point in programme</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

To focus pupils’ attention on thinking, reflecting and questioning, consider providing the key points in the left-hand column and focusing pupils’ thoughts on their comments in the right-hand column.
**Learning through talk: talking and thinking together**

**Year 8 objective:** Use talk to question, hypothesise, speculate, evaluate, solve problems and develop thinking about complex issues and ideas.

**About this objective**
This objective develops the use of talk as a tool for developing thinking. It needs to be taught in a range of contexts and lends itself additionally to cross-curricular work. Teacher modelling or other examples of this use of talk support pupils to understand how the process works. Pupils need both specific support with linguistic structures for hypothesis and speculation and also help with managing their contributions to group work.

**What to teach**

**Questioning**
- How to use questions to open up a discussion, such as ‘What about ...?’ (offering a suggestion) or ‘So what do you think, Sam?’ (drawing in someone else).
- How to use questions to probe/challenge, e.g. ‘And what about ...?’, ‘What if ...?’, ‘Do you agree, irrespective of ...?’, ‘So why do you think that ...?’, ‘After what Sara has just said, do you still believe ...?’, ‘Do you really feel that ...?’, ‘What about the opposing view that ...?’.

**Hypothesis and speculation**
- How to use talk in a tentative way. Explore the use of:
  - adverbials, e.g. ‘Probably ...’, ‘Possibly ...’, ‘Maybe ...’, ‘Perhaps ...’, ‘Presumably ...’;
  - modal verbs (can, may, might, should, will), e.g. ‘It may be ...’, ‘Should we ...?’, ‘Could we ...?’;
  - other tentative/speculative verbs, e.g. ‘I think ...’, ‘This suggests ...’, ‘I wonder ...’, ‘I guess ...’, ‘I suppose ...’, ‘I doubt ...’;
  - questions, e.g. ‘What if ...?’ or ‘What about ...?’.

**Evaluation**
- How to offer statements of opinion, judgement, likes and dislikes, e.g. ‘In my opinion ...’, ‘It seems ...’, ‘I think ...’, ‘I would rather ...’.
- How to use:
  - comparative/contrasting connectives, e.g. compared with, similarly, likewise, alternatively, whereas, on the other hand, despite;
  - causal connectives, e.g. because, therefore, so, in that case, still, even though, as a result, consequently;
  - adjectives (including comparative and superlative forms), e.g. better, best, more than, most;
  - verbs to indicate value judgements, e.g. prefer, would rather, like/dislike.

**Solving problems and thinking about complex issues and ideas**
- How to use the language of cooperation and negotiation, e.g. ‘Should we ...?’, ‘Would it be a good idea if ...?’, ‘I propose that ...’.
How using absolutes, such as never or always, can close down opportunities for negotiation and compromise.

How to use summative comments to offer a solution, e.g. ‘Well, I think we should …’, ‘What about if we …’, ‘Therefore …’, ‘Consequently …’, ‘As a compromise …’.

How to express multifaceted, or more complex, views, e.g. ‘I don’t like it, but I can understand why …’ or ‘Although I wouldn’t, I can see why some people would …’.

How to echo others’ ideas in giving a response, e.g. ‘So you think that …’, ‘Does that mean …?’.

How to develop others’ ideas, e.g. ‘Yes, we could …’ or ‘What about if we then …?’.

The effect of affirming or positive body language to encourage discussion, such as nodding, eye contact (but not solidly staring at someone), seating position (e.g. leaning forward slightly, with ‘open’ body, body turned towards the speaker), arms should not be crossed, voice level.

The value of verbal ‘fillers’, such as ‘mmm’, ‘yes’, while nodding to keep the discussion going.

Teaching approaches

Generate ground rules to encourage speculative talk. Ask pupils to generate sentence stems for different aspects, such as the language of cooperation, e.g. ‘I hear what you are saying’, ‘I agree under some circumstances’, ‘Yes, it does depend on …’, ‘That’s a good idea – it’s something I hadn’t thought of’. Place these on display with any other word banks or sentence stems generated.

Initiate exploratory or hypothetical talk yourself, by using tentative language rather than by asking questions. Begin a discussion by wondering out loud, e.g. ‘I wonder what would happen if I changed the input to this mechanism?’, or offering a hypothetical statement of your own, such as ‘I think cutting the ingredients into smaller pieces will allow them to cook more quickly’. Pupils will tend to emulate this approach.

Explore examples of complex issues or ideas with a range of possible solutions, preferably using stimulus materials such as an artefact, a video extract or a range of packaging. Although pupils may have a preferred option, this does not necessarily mean that it is the ‘right’ or the ‘best’ option. Choices will depend on a range of factors, such as circumstance, values, motivation, previous experience, background knowledge and understanding; there is a range of valid responses. You could model this process by adopting different roles with different viewpoints.

To develop speculation and divergent thinking, ask pupils to work in groups of six to complete a de Bono ‘thinking hats’ activity. Give each group a prototype, such as a scale model of a chair, and tell each member of the group to respond to the design in a manner appropriate to the colour of the hat which they have been given. The colours of the hats, and attitudes they represent are: white – neutral and objective, red – feelings and intuition (‘What do I feel about this product?’), black – cautious and careful (‘What are the negative aspects of this product?’), yellow – positive and optimistic (‘What are the positive aspects of this product?’), green – creative and environmentally aware (‘What changes could we make to improve this product?’). Once the groups have warmed up, make their situation more challenging and encourage them to try to sustain their role for a few minutes.

Give pupils a series of statements representing a range of viewpoints on the design of a product, e.g. a mobile phone. Ask them to place these statements
along a continuum, indicating changing perceptions, technological advances and design styles. Next, ask pupils to speculate why major design changes took place.

- Ask pupils to work collaboratively to produce mind-maps in response to questions such as ‘Could we design a new bread product for children’s lunchboxes?’ or ‘How can we improve this children’s playground?’. Use these for groups to feed back to other groups (as envoys) or to the class as a whole.

- Create a mystery client through a collection of artefacts, such as part of an article in a design journal, a piece of product packaging, a financial report, a torn photograph and a cryptic postcard. Pupils should discuss what sort of person the artefacts may have belonged to, and speculate about the client’s needs if they were to design a product for them.
Learning from text: developing research and study skills

Year 8 objective: Make notes in different ways, choosing a form which suits the purpose, e.g. diagrammatic notes, making notes during a video, abbreviating for speed and ease of retrieval.

About this objective

In this objective pupils need to be taught formats for recording what they read, so they can use them for later recall or re-formatting. Pupils need a real reason to make the notes and a clear idea of what they should then do with them: are they an aide-memoire for personal revision or later recall, or are they preparation for a speaking and listening or writing task? Note making is not just about recording key points: a well-prepared note-making task can ensure that pupils reflect on, ask questions about or challenge information which they have heard. It is important that pupils are shown good techniques for making notes and, crucially, are given opportunities to practise these. These opportunities should be linked to important learning and be designed to establish note making as part of a habitual repertoire of writing skills.

What to teach

- How to make notes in various ways:
  - Diagrammatic notes – possibly using colours, pictures and symbols, capitals, underlining and other techniques to help make the notes clear and memorable.
  - Notes in two columns – where information is recorded in one column and pupils’ thoughts, feelings, questions, analysis and other responses are recorded alongside.
  - Traditional notes – with effective use of bullet points, abbreviations and so on.

- How to recognise the main organisational features of a text, e.g. an information text. Knowing about the structure in advance will help pupils to find relevant information from a source. More information about the organisation of texts can be found in the Literacy across the curriculum (DfEE 0235/2001) folder, module 2. Pupils should be made aware of the way in which headings, subheadings, topic sentences and other features can help them to identify key points.

- There may be specific phrases which signal to the reader that a key point is about to be made, e.g. ‘Another point is …’, ‘A significant feature of this designer’s work is …’, ‘Furthermore …’, ‘So …’, ‘To sum up …’. Knowledge of these text markers will help pupils to recognise when key points are about to be made.

Teaching approaches

- Encourage pupils to experiment and then adopt the note-making format with which they are most comfortable. Ask pupils to reflect on their experience of note making and share their positive ideas.
- Use a shared writing session to show pupils how to make notes in different ways, and to use these in their designing and making.
- Encourage pupils to share their notes with a partner to see whether someone else can interpret them and to share best practice. Pupils should be encouraged to select from a range of note-making techniques the one that suits them best as an individual.
Ask pupils to highlight a review of a design product, using different coloured pens to identify positive points (strengths), negative points (weaknesses) and neutral statements. Discuss with pupils why annotated handouts are much more useful to keep in their folders for revision than just the plain printed sheets.

Give pupils a text which describes, for example, a manufacturing process. Set them the task of summarising this in a way that will help them to remember it. Suggest possibilities such as a flow diagram, storyboard or bullet points.

Ask pupils to use sketching and annotation to record the key features of a familiar product, e.g. a mobile phone, workshop tool or item of clothing.

Use group work and feedback to help pupils identify useful symbols and abbreviations for use in note making, e.g. 4 2 \%, \sqrt{TM} \times \cdot.
Learning through writing: using writing as a tool for thought

Year 8 objective: Use writing for thinking and learning by recording ideas as they develop to aid reflection and problem solving.

About this objective

This objective builds on the Year 7 objective: use writing to explore and develop ideas. It focuses on two important qualities of writing:

- Writing can record ideas so that they are not forgotten and can be returned to for reference, further thought and development.
- The process of recording a thought in writing often clarifies or strengthens it, or even exposes it as less coherent than it seemed when first thought or spoken.

This kind of writing is not generally meant to communicate to a wider audience; it is more likely to be part of notes, jottings or plans that could underpin another piece of writing, a spoken presentation, the solution to a problem or a practical task. It may, however, not be written for just the writer to read, if, for example, it is in the context of a group task. The purpose of writing like this is to capture ideas and possibilities and to develop them by clustering, making links, deciding on sequences, ranking for importance, and making some additions and deletions. The ideas are also captured so that they can be questioned and evaluated.

What to teach

- The contexts in which this kind of writing is useful, e.g. a design brief, specification, research or evaluation.
- A range of styles/formats for this kind of writing (e.g. bullet points, spider diagrams, tables, lists of priorities), demonstrating to pupils that it is important for them to represent their ideas in the way that best suits the way they think.
- How to work with a set of initial ideas on paper to develop them further, e.g. by clustering or prioritising them.
- How to take notes from discussion and then place pupils in role to practise it for themselves.

Teaching approaches

- Ensure that there are appropriate opportunities to explore and develop ideas through writing. Provide a range of groupings over time, such as pair, small group or whole class. Tasks can be open-ended, such as ‘What do we need to find out?’, ‘Can you explain what happens when …?’ or restricted, focusing on one particular aspect, for example, ‘Explain/plan how to make a juggling kit for a celebration, consisting of a themed bag/container and matching juggling shapes’.
- Encourage pupils to continue to record their initial ideas when solving problems or writing explanations. Ask pupils to talk in pairs or small groups and record their ideas either in designing journals or on mini whiteboards.
- Model using a range of formats, tables, bullet points and annotation to solve a problem. For example, describe how product design is influenced by manufacturing constraints, such as a quick response to product orders. Ensure that the format chosen supports pupils in working systematically.
- Set up response partners. Ask pupils to read each other’s notes and jottings and discuss, amend and add to them.
- Encourage pupils to develop their own designing journal, where they should write explanations and descriptions in their own words. For example, ‘Describe the need for a product and judge how well it meets that need’. Pupils could also describe at the end of a unit how they have solved problems or what they have learned.
Learning through writing: developing clear and appropriate expression

Year 8 objective: Explain complex ideas and information clearly, e.g. defining principles, explaining a scientific process.

About this objective

Pupils are expected to manage more complex and challenging content in their written work in Year 8. They should know the basic text-types and have an understanding of the conventions of written text-types across the curriculum. In Year 8, new linguistic structures, vocabulary and cohesive devices need to be taught to help pupils to express increasingly complex ideas. Pupils will need to be taught explicitly the structures of the text-types which they encounter for the first time in Year 8.

What to teach

- Ways of clarifying own thinking through exploratory talk and writing.
- How to use specialised design and technology vocabulary appropriately and in context.
- How to write in logical, easily followed stages with an understanding of the needs of the reader.
- How to link paragraphs effectively.
- How to use appropriate sentence structures.
- How to use appropriate internal paragraph structures.
- How to loop back and review writing frequently through the eyes of a reader.

Teaching approaches

- Use the lesson starter as an opportunity to consolidate pupils’ understanding of specialised vocabulary by:
  - matching terms with definitions or pictures, e.g. electrical or mechanical component dominoes (particularly effective for pupils learning English as an additional language);
  - completing cloze passages, e.g. instructions for manufacturing a kite that contains blanks where specialised vocabulary has been omitted;
  - playing ‘Just a Minute’ (or ‘Just Half a Minute’), where pupils have to talk about a term without repetition, hesitation or deviation; completing definitions in fewer than (say) ten words like a competition tie-breaker, e.g. ‘A design specification is …’.
- Design a starter activity in which pupils have to order/re-order a process or a sequence of information in a flow chart format, e.g. a flow-chart for making a savoury bread product.
- Create a starter activity in which pupils have to organise ideas and information into paragraphs: using header cards for the paragraph headings (e.g. product analysis, design criteria, hazard analysis and critical control points), and smaller cards for the ideas and information to be included in the paragraphs.
- Share a sample text (possibly written by a pupil), such as a project evaluation, and model how to identify the key features through text marking on an OHT, e.g. planning, text structure, use of specialist vocabulary, use of connectives and
typical paragraph and sentence structures. List the positive and essential features of the writing on a large sheet of paper for classroom display.

- Model the use of planning formats which would lead to clearly structured responses. For example, show how a brainstorm of all the aspects of a product manufacture could be ordered into a flow diagram.

- Model constructing a plan around questions which the expected user would like answers to, by sharing a product with pupils and inviting them to brainstorm the questions that they would like answered, e.g. ‘What is it made of?’, ‘How much does it cost?’, ‘Is it heavy?’, ‘Is it sharp?’. These questions could be used to model creating a design specification at a later stage.

- Model the use of a variety of connectives and linking phrases and make the reasons for the final choices explicit.

- In the middle part of the lesson, encourage pupils to revise their writing, to ensure clarity of message. Ask pupils to write on alternate lines or one half of the page, leaving space for amendments and their own commentary. This is especially useful for pupils who are learning English as an additional language. Explain that changes, and explanations for those changes, will be required. Feedback could form all or part of the plenary session.

- As part of a shared session, show how introductions often summarise what is to follow in the subsequent paragraphs. Display a prepared introduction (e.g. from a textbook section on designing strategies or manufacturing processes), and ask pupils to suggest what topic sentences might be used in the rest of the text.

- Support some pupils’ independent writing by providing key words and their definitions (e.g. design brief, research, design development, planning) around the edge of an A3 sheet, with an exercise-book-sized space in the middle. The ‘place mat’ acts as a reminder and confidence giver as the pupil writes. This can be particularly useful for pupils who are learning English as an additional language.
Learning through talk: using talk to clarify and present ideas

Year 9 objective: Use standard English to explain, explore or justify an idea.

About this objective

The use of standard English should be related to purpose and audience. It is important to be clearly understood when conveying ideas to an audience. Pupils need to practise explaining ideas in formal contexts and need to move beyond tentative, exploratory talk into more incisive comments. Pupils should be aware of differences between spoken and written standard English. Although in formal spoken English full sentences are not always used, pupils may make use of more formal devices, such as subordinate clauses, passive voice and connectives, to show the relationship between ideas. At word level, vocabulary needs to be understood by all, with both vagueness and jargon avoided. Pupils might self-correct as they speak, to ensure that the use of standard English is maintained.

What to teach

- That there are choices to be made about the use of standard English in both written and oral work.
- That the use of standard English is determined by audience, purpose and context, and that it can vary in its degree of formality.
- The specific features of standard English and how it differs from dialectal variations, e.g. subject/verb agreement, past tense, adverbs, negatives, pronouns, prepositions.
- When standard English is likely to be required in the classroom, e.g. for prepared presentations and whole-class discussion. Point out when very formal standard English may be inappropriate, e.g. pair work.

Teaching approaches

- Ask small groups to brainstorm the features of more-formal talk, using a diagram such as a web diagram. Each group should focus on one of explain, explore, justify. Tell the groups to report back their ideas for discussion. Record them on the whiteboard or OHT, revise them and then ask the groups to produce a poster or leaflet explaining the key features.
- During oral work, praise good use of design and technology vocabulary and comment constructively on how less-appropriate language could be improved.
- As a starter activity, ask pupils to provide standard English alternatives for a number of inappropriate statements, such as ‘The shelf is a bit wonky’. The aim of this is to demonstrate the kind of language which is appropriate when pupils are, for instance, evaluating something they have made.
- Model one type of talk (e.g. explaining how to use a sewing machine to sew straight and curved lines) in a more formal presentation to the class. Demonstrate the beginning of the talk. Ask pupils to note key phrases and other features as you go. Discuss and record the key points and then continue with the next stage of the talk, asking pupils to take over. Ask pupils to work in pairs to complete the task.
- Specify your expectations for the use of standard English and correct design and technology vocabulary when you set oral tasks. For example, ‘Describe how the materials used in one product have changed over time, and predict how materials may change in the near future, such as the materials for sports equipment and...
sportswear’. Remind pupils that you are looking in particular for correct design and technology terminology, and ask listening pupils to note examples of standard English features and any instances of inappropriate language.

- When pupils have made oral presentations, no matter how brief, allow some time for reflection and include the questions ‘Did we try to use standard English?’ and ‘How successful were we?’.
Learning through talk: active listening to understand

Year 9 objective: Identify the underlying themes, implications and issues raised by a talk, reading or programme.

About this objective

Pupils should be able to listen carefully, to select particular information for comment and to identify how messages are conveyed. They need to interpret what they hear, recognising what is implied and detecting bias. This involves being aware of audience and purpose, recognising connotations at word level, stylistic conventions at sentence level and organisational implications at text level. While some pupils will recognise implications and issues immediately, others need support to explore beyond the surface. The objective is likely to be taught alongside other objectives clustered around persuasive texts, both spoken and written.

What to teach

- How to listen for different purposes to:
  - identify the main points made;
  - understand main points and formulate own responses, e.g. own views or questions;
  - identify key points and recognise how they are being made, explicitly or not;
  - identify what significant issues are raised and why.

- How different types of spoken texts may be organised and, especially, what techniques may be used. For example, at text level, a prepared talk designed to persuade the audience of a particular point of view (e.g. the advantages of mass production) may be carefully structured as an introduction which orientates the listener, followed by a series of linked points and finally a concluding overview. At sentence and word level, the speaker may deploy rhetorical questions, irony, emotive language, imagery and repetition.

- What is meant by theme. In a talk, it means an idea or topic which is expanded upon. For example, a pupil speaker may explore the theme of Alessi design style or sustainability in product design and manufacture.

- What is meant by implication – something that is not directly stated but suggested or hinted at. Listeners need to hear between the lines. A particular meaning may be implied by:
  - a rhetorical question, e.g. ‘Would you like a jacket that warms you when you are cold and cools you when you are hot?’;
  - an invitation to the listeners to work out something for themselves, e.g. ‘Think about how it works’;
  - apparent denial, e.g. ‘I wouldn’t say this is a good design’;
  - connotation, an association or idea suggested by a word or phrase, e.g. fresh suggests healthy.

- How to detect bias in different types of material. Pupils need to ask searching questions about the underpinning beliefs of the speaker, writer or television programme maker/presenter. They need to be able to detect illogical thought, unsubstantiated arguments and distortion of data. They need to recognise emotive language which seeks to persuade the listener against his or her good judgement.
How a talk, reading or programme may set out to deal with an explicitly identified issue, or how it may unintentionally raise issues for the listener. Effective listeners need to be able to identify:
- important points of interest raised by the material;
- their own views on these points.

Teaching approaches

Focus pupils’ attention on the idea that writers, speakers and programme makers have a specific purpose which readers, listeners and viewers need to recognise to avoid being hoodwinked. Provide a list of different examples and ask pairs of pupils to suggest the purpose of each one:
- Product advertising
- Television news reports on teenage eating habits
- James Dyson’s speech to engineers
- Equipment leaflet
- CD inserts
- Food packaging
- Smart materials leaflet
Discuss why it is important to recognise the purpose, and what might happen if you don’t.

Explain listening tasks precisely. Provide guidance on what pupils should do while listening and what will happen afterwards. Provide a handout which will help them to complete the task effectively, for example, an outline of the television programme with space for notes under each heading, or a specifically designed note-making template.

If you want pupils to focus on issues raised, again encourage noting of key points. Ask pupils to highlight or circle significant issues for later discussion. When taking feedback, ask pupils to explain why a point is of interest or perhaps is contentious. Note key issues on the whiteboard for a possible written follow-up task.
Learning through talk: talking and thinking together

Year 9 objective: Discuss and evaluate conflicting evidence to arrive at a considered viewpoint.

About this objective

Through discussion of conflicting evidence, pupils should become more aware that views can be diametrically opposed or simply differ slightly on certain points. They need to clarify their understanding of what is being said, be attentive to details and read between the lines to identify any subtext. In evaluating evidence, pupils should consider bias, flawed arguments, inaccuracy and extreme views. They also need to be aware of how their own opinions or assumed stance influences the consensus which they reach. They need to develop their ability to work together to avoid polarisation in the group. Contributions will often respond directly to what has just been said, acknowledging the views of others. In reaching a considered viewpoint, pupils will justify and modify details of their own views. They could be required to explain their considered viewpoint to others.

What to teach

- How to give evidence, reasons, anecdotes or illustrations to support views. For example, ‘To support this …’, ‘Evidence demonstrates …’, ‘Research proves …’, ‘The facts show …’.
- How to use adverbs to temper one’s views, such as sometimes, often, always, occasionally.
- How to make interjections, accompanied by a shift in views, such as ‘Oh, I see …’ or ‘Oh, I understand now …’.
- How to offer statements of opinion or judgement, such as ‘In my opinion …’, ‘I think …’, ‘I believe …’, ‘I prefer …’, ‘I would rather …’.
- How to evaluate evidence using:
  - comparative/contrasting connectives, e.g. compared with, similarly, likewise, alternatively, whereas, on the other hand, despite;
  - causal connectives, e.g. because, therefore, so, in that case, still, even though, as a result, consequently;
  - verbs to indicate judgements, e.g. believe, think, prefer, would rather, trust.

Teaching approaches

- Through discussion with pupils, clarify the process involved in reaching a considered viewpoint. For example:
  - look at products, take them apart, try out mechanisms, feel textures, taste food products, or read information and then discuss the evidence;
  - ask questions to clarify understanding (if possible);
  - be attentive to detail and read between the lines to identify subtexts, e.g. the percentage of fat in food products and health implications;
  - when evaluating the views of others, be aware of bias, inaccuracies, flawed reasoning and extreme views;
  - be aware of your own bias and views;
  - be willing to modify your views in the light of new evidence or good argument, e.g. healthy food choices and current nutritional guidelines;
– aim to be objective when discussing the merits of different situations or arguments, e.g. the use of more expensive biodegradable materials for packaging.

- Set up various scenarios with conflicting evidence where a decision has to be taken, for example, a proposal to alter the design of the school uniform. Ask pupils to work in groups to discuss the evidence and decide on some designs. Each member of the group should adopt a role (pupil, parent, teacher, headteacher, PE teacher, manufacturer, retailer, etc.) and the group should then discuss how possible designs would need to meet the needs of everyone. After the group discussion, the group should reach a decision about a final design and make their recommendations.

- Give pupils a controversial statement to discuss. Allow thinking time and some initial discussion, then give pupils additional prepared statements, on cards, to add to the discussion. Pupils should use these statements to extend or modify their views. For example, initial card: ‘There is no such thing as a ‘bad’ food’. Additional cards: ‘What about if you have a balanced diet?’, ‘What if you really like the food?’, ‘Does your age matter?’.

- Read various opinions or listen to talk shows about a suitably controversial issue, such as a proposal with an environmental impact. Ask pupils to work in groups to discuss and evaluate the ideas, and then agree a group consensus to justify to others.

- After studying nutrition, place a nutrient (e.g. protein) on trial. A range of evidence and viewpoints about its place in a healthy diet should be presented before the jury considers its verdict.
Year 9

Learning from text: developing research and study skills

Year 9 objective: Synthesise information from a range of sources, shaping material to meet readers' needs.

About this objective

Pupils are expected to find and extract information independently, although these skills will need to be consolidated and made explicit in any information-gathering exercise. In addition, they will need to apply their knowledge of how texts work, including ICT texts. The objective expects pupils to be selective and discriminating when gathering information. They need to be clear about what they need to research and the perspectives to be covered. Once appropriate information is selected, pupils need to be able to combine and organise it into a coherent whole, according to audience and purpose.

What to teach

- How to assess texts for relevance, referring back to task, audience and purpose.
- How to discriminate between fact and opinion in carrying out accurate research.
- How to use appropriate planning grids/formats, systematically acknowledging sources.
- How to use notes in order to shape information from a range of sources into a coherent plan.

Teaching approaches

- Use a shared-writing session to show pupils how to marshal and categorise information under headings, and to organise and shape it into a coherent plan. Provide sets of cards containing diverse information and ask pupils to discuss it in pairs or groups before making their own decisions about grouping information, selecting only what is relevant to a particular purpose and audience.
- Play the relevance game. Provide pupils with cards giving a range of relevant and irrelevant facts related to a product analysis. Pupils, in groups, should discuss, select and justify the relevance of each fact to the product. For example, ‘The product is an earlier version of a contemporary product’, ‘It is a nice colour’ should be deemed irrelevant while ‘It has been made of a more traditional material’ is more relevant. Differentiate by providing target groups with simpler card choices and more familiar products.
- Model the process of establishing if something is a fact or an opinion. For example, ‘If I can put “I think…” in front of a statement, there is a high chance that it will be an opinion. For example, “I think this product is an executive toy”. On the other hand, a fact is something which is true and can be proven, such as “It is made of acrylic and metal”.
- Provoke pupil responses with a series of facts and opinions for pupils to apply this method to, e.g. ‘Bread is only baked and not fried’.
- Ask pupils to search the Internet for a particular topic (e.g. sportswear design) and for a particular purpose (e.g. to find out about new textiles being used in sportswear). Tell pupils to predict which websites thrown up by the search are likely to contain relevant information. They should then check whether their predictions are correct. Pupils can be shown how to select brief extracts from web page texts and save them onto their own note sheets.
Provide pupils with a product analysis and ask them to annotate it, labelling the facts and opinions contained within it. For a higher level of challenge, provide two analyses of the same product and explain that their task is to separate out the facts.

Encourage pupils to be critical and evaluative. Create with pupils a checklist of questions to ask about research findings, e.g. ‘Is that a fact or an opinion?’, ‘Are those your ideas?’, ‘Can you explain that more simply?’, ‘Is that appropriate to your audience?’, ‘Is that relevant to the task?’, ‘Have you acknowledged the source?’, ‘How reliable is that source?’; ‘Could it be biased?’.

Pupils can use the checklist individually or with response partners.
Learning through writing: using writing as a tool for thought

Year 9 objective: Record, develop and evaluate ideas through writing, e.g. essays, journals.

About this objective

This objective builds on the Year 8 objective: use writing for thinking and learning… . It refers to writing that has the development of learning as its core purpose, thus distinguishing itself from writing to demonstrate learning in a specific context, e.g. for summative assessment. Writing set in the context of this objective will have as its main purpose the development and securing of understanding. This can be done by asking pupils to:

- collect information together in a certain way;
- devise questions;
- explain;
- reflect on and evaluate material;
- transform material by representing it in a different way;
- express feelings about a topic or issue;
- speculate on possibilities;
- analyse and comment.

As such, this kind of writing can take many forms. Journals and learning logs lend themselves well to questions, reflections, evaluations, speculations and the expression of feelings. Reports and evaluations are well suited to the collation of information, commentary and analysis. Pupils can be asked to transform materials by being asked to produce instructions, letters, newspaper reports, leaflets and a whole range of text forms.

Writing of this kind may have an element of recording (e.g. for future revision), but this will not be its main purpose.

What to teach

- Pupils will need, above all, to understand the underlying purpose of this type of writing. They will also need to be taught:
  - the language of questioning, reflecting, evaluating, speculating, analysing and commenting;
  - subject-specific vocabulary and spelling.

Teaching approaches

- Ask pupils, in pairs, to define a list of features that would be found in a ‘coherent and comprehensive’ report. Then ask them to share their suggestions with the rest of the class and use them to compile a definitive list on an OHT or a flipchart which can be used by the whole class. Ask pupils to identify which features have been omitted from their own reports.
- Use response partners. Ask pupils to read each other’s reports and explanations and discuss, amend and add to them.
- Demonstrate re-reading as writing takes place and looping back to improve fluency and understanding.
- Continue to promote design journals or project logs. Give pupils a prompt sheet to remind them to include writing which both develops and evaluates their ideas. Journals could include work about subject terminology, and reflections on how to remember and spell these terms correctly.

- Use ‘show me card’ starter activities to identify quickly which pupils still have problems with high-frequency design and technology vocabulary. The Design and technology framework, available from December 2004, contains a glossary of design and technology to identify important vocabulary.

- Lead a whole-class ‘look, cover, write, check’ starter activity with whiteboards to introduce the spelling of new subject-specific vocabulary. Pupils should then be encouraged to decide on their own best individual strategies for remembering the words.
Learning through writing: developing clear and appropriate expression

Year 9 objective: Write with different degrees of formality, relating vocabulary and grammar to context, e.g. using the active or passive voice.

About this objective

Pupils should be consolidating their understanding that texts (even of the same text-type) can vary in formality, and that writers sometimes deliberately manipulate text-types according to the needs of different audiences and purposes. Pupils need to understand the effects of changing active and passive voices, the formality associated with different sentence structures (especially the use of subordination), and the need to make appropriate vocabulary choices.

What to teach

- That this is a key objective because it is about consolidating and securing the ability to choose the appropriate register for audience and purpose independently.
- That there is a continuum on which pupils need to base their language choices:
  
<table>
<thead>
<tr>
<th>Very Formal/Formal</th>
<th>Informal</th>
<th>Very Informal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard English</td>
<td>Colloquial</td>
<td>Slang</td>
</tr>
</tbody>
</table>
  
- That formal English is usual in written text, except for dialogue, and magazines such as fanzines.
- That part of formal written English is being able to select and maintain an impersonal style. Pupils need to be taught to find alternatives for you in formal writing. You, in this context, has the generalised meaning of one, an impersonal pronoun. English does not possess a comfortable, generalised impersonal pronoun; alternatives include the inclusive, generalised we or the passive voice in such phrases as ‘It might be said that …’.
- That in active sentences, you are told who did it and what they did.
- That in passive sentences, you are told what was done and to whom, but you are not necessarily told who did the action. The passive ‘depersonalises’ the writing, contributing to increased formality, such as in scientific writing, reports and explanatory texts, where its use is entirely appropriate. For example, ‘The batch production run did not produce quality products’.

Teaching approaches

Teaching through reading

- Take examples of texts, such as broadsheet headlines and tabloid headlines on sustainability issues, and ask pupils to place them on the continuum shown above. Design magazines and health or nutrition leaflets are also useful for this. Discuss why particular choices were made by pupils and what statements the texts make about their intended audience and its relationship with that publication.
- Compare, for example, an extract from a formal recipe book with one from a children’s recipe book. Discuss the relative formality/informality of the texts and decide on the intended audience and purpose. Discuss how differences in purpose and audience can affect language choice.
Take a very formal text, for example, some technical information on ‘smart materials’ which uses impersonal language, and model annotating it to show why, where and how the impersonal tone arises.

Evaluate a persuasive advertisement to show how words and grammar are used to persuade the audience. Discuss the level of formality in the advert and what this suggests about the advert’s target audience.

Compare websites for different audiences, e.g. the British Nutrition Foundation’s website for students and teachers of food technology, and a product manufacturer’s website, e.g. The National Dairy Council. How far does the audience dictate formality? How is formality/informality shown?

**Teaching through writing**

Ensure that pupils are always clear about audience and purpose before they write. Discuss the effect of audience and purpose on choosing an appropriate register. List the different kinds of writing which pupils do in the context of design and technology, and discuss the appropriate level of formality for each one.

Model the effects on language choices of changing the instructions for playing a board game for children or adults. Discuss audience and purpose before beginning.

Ask pupils to write two information leaflets about the same topic (e.g. healthy food choices), for young people and for the over 50s. Ask pupils to provide a commentary about their language choices in each case.

**Bibliography**

The *Literacy in design and technology* files on this CD-ROM addresses speaking and listening and active-listening strategies in design and technology, including:

- Using talk to deepen understanding.
- The use of oval frames to develop pupils’ experience in reporting back.

*Literacy in design and technology* also addresses writing in design and technology:

- Ways are suggested of working with pupils to develop writing skills through the design process and evaluations.
- There is video exemplification of a teacher modelling the process of writing annotations.

*Literacy in design and technology* also addresses the importance of language in design and technology:

- Identifies a range of activities that can be used to develop D&T vocabulary.
- There are some strategies to support pupils’ spelling.
Prompts for subject leaders

Learning through talk

- Did the lesson exploit opportunities for pupils to learn through talk, or were there missed opportunities?
- Did the teacher make clear the intended outcome for any speaking and listening activity and set clear time targets to encourage pace and application?

Where pupils were asked to use talk to clarify and present ideas:

- did their response suggest that the teacher needed to model the kind of presentation required?
- was an appropriate context created for the activity? For example, was there sufficient thinking time? Did less-confident pupils have the chance to talk with a partner before presenting to a wider audience?
- did the teacher give clear feedback to pupils, not only on the content of their presentation but also on the effectiveness of the communication? Did the feedback include clear advice on how to improve?
- did the teacher promote the use of standard English as the form of language appropriate for presentations in class?

Where pupils were required to listen for a sustained period:

- was the subject matter and style of presentation well matched to the pupils?
- was sufficient consideration given to the range of ability in the pupil group?
- was the talk/programme contextualised for pupils in such a way as to activate their prior knowledge?
- were they clear in advance about what they were listening for and how they might have to respond to what they had heard?
- was the listening scaffolded in any way, for instance, with a structured note sheet or some prompt questions?

Where pupils were required to talk together in pairs or groups:

- was the grouping of the pupils appropriate for the task and its purpose?
- were they clear about the expectations for their behaviour during the activity or did they need the support of some ground rules?
- were they clear about the type of speaking and listening required of them during the activity, e.g. speculating, evaluating, sharing ideas to solve a problem? Did this need clarifying or demonstrating by the teacher?
- were they clear about the particular roles they needed to fulfil in the pair/group, e.g. chairing, reporting, recording? Was there evidence that this needed clarifying or demonstrating by the teacher?
- were any reporting-back activities organised to maximise participation while avoiding tedious repetition?
- were the groups supported by the teacher to ensure that most, if not all, reached a satisfactory outcome in the time allowed?
Learning from text

- Did the lesson exploit opportunities for pupils to learn from text, or was there evidence of the ‘retreat from the written word’?
- Did the teacher always read for the class or was there an expectation that pupils could and should engage with text for themselves?
- Were texts well chosen, both in terms of content and reading difficulty? Did the teacher take account of the fact that more-challenging texts can be used in the context of shared reading than when pupils are asked to read independently?
- Where a textbook was used, were pupils familiar with its conventions (e.g. page layout, symbols, structure), or did this need to be clarified for them?

Where pupils were required to undertake research:

- did they demonstrate a range of appropriate reading strategies for the task (e.g. skimming, scanning), or did they need reminding of these?
- did they have effective ways of recording information to fulfil the purpose of the task, or did they need guidance/support with making notes?

Where pupils were required to read closely for meaning:

- were they given a way into the text that would encourage close reading and help them overcome initial difficulties?
- was the activity set up to encourage active reading and inference and deduction, e.g. through the use of techniques such as sequencing, annotation, cloze?
- when questions were set on the text, were they likely to promote understanding or just the simple retrieval of information?
- were less-able or less-willing readers supported in the task?
- were they encouraged to question the text and consider it in relation to its degree of objectivity and the writer’s intentions?

Where pupils were reading a text as an example for their own writing:

- did the teacher help them to identify the features of the text that allowed it to fulfil its purpose, e.g. its structure and use of language?
- did the teacher encourage the use of the correct terms when referring to these features, e.g. topic sentence?
- did the teacher exploit effective strategies such as annotation during shared reading in order to show pupils how a particular type of text works?

Learning through writing

- Did the teacher clearly establish both the purpose and intended readership of the writing?
- Was enough done to ensure that the pupils had something to say in their writing?
- Were pupils clear about what writing strategies were appropriate for the task, e.g. collaboration with a partner, drafting, proofreading?
- Did pupils have access to reference materials to support their writing?
- Did the teacher use steps from the teaching sequence for writing as appropriate? (see Literacy and learning: Guidance for senior leaders Appendix 4, page 45.)
- Was there evidence that pupils receive clear feedback on their strengths and on ways to improve, both during and after writing?
Where pupils were using writing to capture and develop thoughts and ideas:

- did they use an approach to writing that suited this purpose, allowing for adaptation, reflection and evaluation?
- did they have a repertoire of formats for this kind of writing, or did they need more support from the teacher through demonstration?
- were they able to use the outcomes of this kind of writing to support a further task, e.g. a spoken presentation or a more formal piece of writing?

Where pupils were required to write a longer piece:

- did they know how to organise that particular type of writing or did this need to be taught explicitly, e.g. using the teaching sequence for writing?
- did the teacher make explicit reference to paragraphs and how they can be linked?
- were they supported with the process of selecting, prioritising and ordering material when they needed to incorporate information from a range of sources?
- were there strategies for supporting weaker writers with the task, e.g. a writing frame?

When helping pupils to develop clear and appropriate expression:

- did the teacher use strategies to encourage pupils to reflect on the clarity of their writing and alter it as necessary?
- were they encouraged to rehearse sentences orally before writing?
- were they encouraged to think about and engage in the choices which a writer must make in terms of vocabulary and sentence structure, e.g. through shared writing?
- were the constraints for making choices as a writer made explicit, e.g. the appropriate degree of formality?
1 Leading cross-curricular change: literacy

The DVD features a 13-minute film shot in 2004 at Haybridge School in Worcestershire which is meant to stimulate discussion about implementing literacy as a whole-school initiative, and can be used in the context of a meeting of subject leaders. In the film, the deputy head and other staff from the school reflect on the process by which they have already made progress in implementing literacy across the curriculum and consider how the literacy and learning materials will allow them to continue the process of embedding and sustaining literacy as a focus for whole-school improvement. The film includes brief visits to three lessons: science, art and religious education.

2 Literacy and learning: key teaching approaches

Included on the DVD along with Leading cross-curricular change: literacy are examples of key teaching approaches for speaking and listening, reading and writing. The approaches are:

- teacher modelling;
- small-group discussion;
- active-reading strategies;
- shared reading;
- guided reading;
- shared writing;
- guided writing.

Subject-specific examples of most of these approaches are contained on this CD-ROM but this additional material can be useful to subject leaders to inform their work as:

- evaluators of teaching and learning;
- curriculum leaders.

These examples can be shared with other staff in training sessions or in the context of professional development generally. It is meant for use where subject leaders wish to promote a particular teaching approach with an individual teacher or more widely within the department or faculty.

Shared and guided reading and writing are exemplified here only in the context of English, where they are best known, but these approaches can be useful in all subjects.

**Shared reading** is important because it allows the teacher to work with the whole class on a text that would be too challenging for independent work. Enlarging the text using an OHP or data projector allows the use of a range of interactive strategies to involve pupils directly, and is more powerful than using individual copies because the attention of the pupils can be focused by the teacher on particular parts of the text. Shared reading makes ‘the invisible process of reading, visible’.

**Shared writing** is a teacher-led activity that engages the whole class in the act of writing. Working at the whiteboard or OHP, the teacher firstly demonstrates the process of composition, explaining out loud why certain choices are being made. Next, pupils contribute their ideas for continuing the writing, which are sifted and refined before being written up by the teacher. Shared writing shows pupils the kinds of choices which writers
have to make, and allows them to take part in the enjoyable process of composition without the additional burden of spelling and handwriting.

**Guided work** (reading and writing) is where the teacher works for about 20 minutes with a selected group of around six pupils, while the others work independently. It is a powerful way of teaching to the specific needs of an identified group within the class and is a way of building a bridge between teacher-led and independent work.

### 3 Key teaching approaches index

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