



## STUDY SKILLS

**What do we mean by study skills?**

**When reviewing the teaching and learning of study skills in your school, first ensure that colleagues are agreed on a definition.**

### STUDY SKILLS

- Study skills are also sometimes known as 'research skills', 'library skills', 'information skills', 'information handling/retrieval skills' or 'reading to learn'. Problems with study skills may occur in various contexts:
  - when teachers ask pupils to research and/or produce a piece of work on pre-set questions or topics;
  - when teachers get pupils to research and record findings on a general topic;
  - when pupils are required to set their own questions or topics for research;
  - when pupils are briefed to evaluate their reading to form a view from it;
  - when pupils are asked to produce findings from their reading. These might not just be in writing, but in any form, such as an oral presentation, graphs, maps, tables or diagrams, a poster, a model, or a design. Similarly, the reading itself might be of maps, diagrams, or material derived from ICT. In other words, study skills involve research and assimilation of information at least partly in the form of text, though not necessarily only in that form.

Some of the most common problems that teachers encounter with pupils' study skills, though by no means the only ones, are: inappropriate research methods; 'copying whole chunks' of text, e.g. just downloading text from the Internet; poor note taking; and brief, untidy or disorganised written results.

If study skills are an issue for your school, it is likely that they are of concern across the curriculum. Study skills should therefore not be the sole responsibility of the English department, or of those who teach literacy where this is a separate arrangement, nor of special educational needs staff. Every teacher, in any subject, should be encouraged to see himself or herself as a teacher of 'reading and writing to learn'.

➤ Study skills involve the following three main processes:

- locating information
- organising information
- reconstructing information

Analysed more finely, the study skills required of pupils are:

- identifying information already known ('activation of prior knowledge')
- identifying information needed, which may involve setting suitable questions
- defining a subject and a purpose for the research, i.e. in what form it might be presented, and to whom
- locating and selecting possible sources of the information, for example a particular shelf in a library, a CD-ROM or the Internet, an expert on the subject
- recognising text type or types and how to read them to obtain the information; in other words, choosing the right methods
- locating information in the text, and interacting with the text in the most effective manner
- monitoring the understanding of the text, and using appropriate strategies if there are parts that are not understood
- selecting and extracting relevant information

- organising and recording the information, for example in note form, either in writing or electronically
- evaluating, interpreting, integrating and interrogating the information, i.e. 'making it the pupil's own'
- using processes for remembering what has been learnt
- presenting or communicating findings or points of view.

It may be rare for teachers to require all of these skills of pupils on any one task, and they do not necessarily follow in exactly this sequence. However, this comprehensive checklist, adapted from Wray and Lewis (1997b), shows the multi-faceted nature and complexity of the skills involved, and can be used to identify areas where pupils have problems.

### **WHY ARE STUDY SKILLS AN IMPORTANT FOCUS IN THE EDUCATION OF GIFTED AND TALENTED PUPILS?**

The launch pad on **underachievement** explains that some able pupils are at a disadvantage from their underdeveloped learning strategies. Of these, poor study skills can be a key factor in their inability to fulfil their potential. This can entail a lack of organisational skills when selecting from their reading, or a tendency to become overwhelmed by a mass of detail.

### **WHAT ARE THE KEY ISSUES TO CONSIDER?**

#### **➤ Identifying information already known**

- The findings of research underline the importance of pupils' prior knowledge in enabling them to understand new knowledge (Anderson and Pearson, 1984, and Anderson, 1977, quoted in Wray and Lewis, 1997a). This interactive engagement between the known and the unknown is the essence of good enquiry work by pupils.

Wray and Lewis recommend and describe the following methods:

- Exhaustive brainstorming, in pairs, in groups or as a whole class
- Exhaustive concept mapping, described by Buzan, 1995, as mind mapping, and by Fisher, 1995, as cognitive mapping
- Use of 'concrete manipulatives', such as pictures, artefacts, videos, visits. to stimulate memory

- Use of grids, such as the following. This is known as the KWFL grid, the initials standing for Know, Want, Find, and Learnt, as represented in the four columns:

What do you already <u>K</u> now?	What do you <u>W</u> ant to <u>K</u> now?	Where can you <u>F</u> ind out?	What have you <u>L</u> earnt?

In the first column, all information already known is recorded. The use of further columns is explained below.

- The use of writing frames. such as ‘Before I researched this I thought...’, ‘Now I know...’, introduced well in advance of the final writing task .

Marshall and Rowland (1993), in their useful book aimed at older pupils, recommend recording what is already known about a topic before beginning an essay, report or assignment. They suggest brainstorming a subject by asking oneself the questions ‘Why?’, ‘Who?’, ‘What?’, ‘When?’, ‘How?’, ‘Where?’ and noting down known answers.

➤ **Identifying the information needed.**

There are times when teachers will themselves decide which specific questions or topics are to be researched by the pupils. However, it is universally agreed that all pupils, not just the more able, should learn to study and think independently. It is therefore important that they have opportunities to formulate their own questions and aspects for research from time to time. Practising **questioning skills** undoubtedly helps develop **thinking skills**. Buzan (1995) looked at the performance of two groups which were are tested comprehensively on a text. One had been given certain key questions or themes on which to focus, and that group performed better, even on aspects of the text on which they did not focus in their reading. Readers need to be active, questioning readers to achieve success.

A valuable practice is for the teacher to model what makes a good, unusual or interesting question to consider when reading or researching. For example, the topic should be neither too broad nor too narrow, and should not pose excessive difficulty.

Other recommendations are:

- When using the mind maps you have made on a subject, pick key words or concepts and encourage pupils to compose questions incorporating these, beginning ‘Who?’, ‘Why?’, ‘What?’, ‘How?’ etc. These can then be collaboratively evaluated for quality, relevance, amenability to research, etc., and the best can be selected and given priority (Neate, 1992).
- Continue the KWFL grid, shown above, by filling in the second column (‘What do you Want to find out?’) in response to what is already known, recorded in the first column. For example, the first column might record that pupils know that ‘substances are either solids, liquids or gases’. Pupils might then ask ‘what are the differences between solids, liquids and gases?’ in the second column (Wray and Lewis, 1997 a and b). Again, discuss the suitability of different questions.
- Use a ‘QuADs’ grid, as follows:

<u>Q</u> uestions	<u>A</u> nswers	<u>D</u> etails

In the first column, record the questions to be researched . Once more, evaluate these questions (Wray and Lewis, 1997 a and b). The use of further columns is explained below.

- Marshall and Rowland (1993) suggest useful opening questions for essays, assignments etc. for older, independent learners, e.g. ‘How do I know that...?’, ‘What happens if...?’, ‘Could/should... be applied to...?’ They also propose questions to ask oneself to establish the main focus of interest.

The teacher may wish to allocate different kinds of questions/topics, or questions/topics within a group, varying in their levels of difficulty. This is possible whatever the mix of ability in the class if the recording methods described above have been applied.

### ➤ **Defining a subject and a purpose for research**

As we have seen, pupils are more likely to locate and understand relevant information if they *already having key questions and a purpose in mind* when they set about seeking it. Teachers should review with pupils the precise wording and nature of the tasks they are setting out upon, such as the difference between *analyse* and *describe*. They should also explicitly discuss with pupils the uses to which research will be put. For example, will the pupil make further use of it as the base for another enquiry? Is it to provide the substance of an essay, diagram, model, presentation or display, for example for assessment by the teacher or for viewing by visitors to the department? Will the findings be shared with fellow pupils as part of a collaborative exercise? Are pupils aware of the literary conventions of any piece of writing expected as the final? This last point implies an understanding, at an appropriate level, that different text types have distinctive structures and linguistic features, a matter discussed below.

### ➤ **Locating and selecting possible sources of the information**

There will be times when the teacher prescribes or even supplies the reading required of pupils. There will be others when the pupils are expected to research information independently. Wray and Lewis (1997b) strongly urge teachers to avoid the use of disembodied, worksheet-type exercises to practise locating information. Study skills can be improved effectively only when they are contextualised, with a real purpose, and where the pupil is applying them to discover something that really does demand research. Aids to this process include:

- Completing an F column on the 'KWFL' grid: 'Where might I Find the information?' This encourages pupils to think and research divergently: to recognise that there are many more sources of information than the library, e.g. teachers, known experts, pamphlets, the Internet, etc. (Wray and Lewis, 1997 a and b).
- Teaching pupils how to use the Dewey and other cataloguing and classification systems in libraries, and to scan the shelves, casting

the eye over the main 'signposts', and looking for relevant markers.

- Teaching pupils how to navigate efficiently, and with a clear purpose, such sources as CD-ROMs and the Internet.
- Marshall and Rowland (1993) have useful practical guidance for older, independent learners on how to find and select relevant texts, on choosing libraries, on the many kinds of information available in different sections of libraries, and on accessing reference material. They also discuss primary and secondary sources and the electronic media.

➤ **Recognising textual clues, and how to read them to obtain the information**

Skilled readers are able to search persistently for evidence but are also able to modify their interpretation of it in the light of further evidence as they read on, using a variety of contextual clues to extract meaning in the fullest possible sense. They pay very close attention to detail, and are able to cross-reference this detail. They are able to view the text as a whole and recognise that a fact or opinion encountered at one point may need to be read in relation to something that has been said several paragraphs earlier. Thus, they can 'interrogate' complete texts, using inference and deduction to achieve meanings beyond the literal, and in drawing those inferences they may have to connect implicit information from two or more separate statements. As remarked above, skills of this kind cannot be developed by worksheets and exercises. They need a real purpose, and one that will have a real consequence. One of the most productive steps a school can take is to bring together and tessellate the specific strengths that particular subjects can offer in the development of these skills.

Whilst 'study skills' worksheets and exercises can be ruled out, there are useful methods which the pupil can be taught in the context of a specific piece of research. For example, there is the technique of gaining an overview of a text before reading it in detail (Buzan (1995), Wray and Lewis (1997b) ). The teacher should model ways of doing this, sharing his/her thought processes with pupils: 'I want to find out about x. How do I find out whether this text might have information about x? Well, first I'm going to...'

Processes that can be modelled include:

- *Browsing*. Casually scrolling through pages, getting the 'feel' of the text. The reader will be looking for organisation and structure, level of difficulty, proportion of diagrams and illustrations to text, and the location of any summary or conclusions section (Buzan, 1995).
- *Skimming*, a) to gain an impression of the gist of a text and b) to gauge the readability level and whether it is suitable. De Leeuw (1965) describes skimming as stilling the eye to take in at once the sense of some of the chunks of text. There are various ways of doing this. One method is to run a finger and the eye down the middle of a page. Another is to 'hop them down' in movements that include four or five lines at once. In the process, the reader can register memorable or key words, or even speak them out loud. Marshall and Rowland (1993) have practical advice for older pupils on 'speed reading' and on reading of other kinds, for example reading for 'depth' or for 'breadth. Readability is influenced by many factors, for example the amount of punctuation, length of words, complexity of sentences, and number of technical terms or proper names. Research quoted in Neate (1992) shows that pupils themselves are capable of adjudging what makes a text 'difficult' for them to read, but an aspect of study skills is the ability to increase one's capacity to deal with challenging material.
- *Using contents lists, indexes and major headings*, and discussing the functions of each in locating information. The pupils should brainstorm the key words that may occur in a chapter or section heading. For example, if the topic to be researched is deforestation, key words that flag up relevant sections may include 'cutting', 'logging', 'land clearance', 'stripping', 'timber', 'destruction', etc.
- *Scanning*, a) to identify the text type and how it should be read, and b) to locate the information needed within a chapter, section or page. Pupils who have experienced the National Literacy Strategy will be aware of six types of non-fiction text: report (information); recount; explanation; procedure (instructions); persuasion; and discussion (discursive). While these are not mutually exclusive, each type has characteristic linguistic features and structures. By glancing rapidly over the layout and main

features of a page or section, teacher and pupils can identify the predominant text type and discuss how that should be read. For example, instructions should be 'close-read', in detail, from start to finish, to ensure no mistakes are made, while information text can generally be read selectively, and in any preferred order. By looking at the 'principal signposts' on a page, such as illustrations, large headings, bold words, etc, the pupil is able to home in on the general location of information he or she needs, while ignoring other information.

### ➤ **Locating information within the text**

Research has shown that underlining and highlighting are particularly successful for extracting and learning relevant information. It may be possible for pupils to underline or highlight directly on the text when using photocopied material. However, if books or other valuable resources are being used, pupils could be asked to clip a sheet of acetate over the text and make markings on this with non-permanent pens. The teacher will need to discuss with pupils the techniques for getting the best results. For example, they can be encouraged to choose the most essential words and ideas *only*, and to highlight in a different colour any text they don't understand, for investigation later. They can also work in pairs or small groups to discuss meaning and significance in what they are reading, and to reach a shared understanding of what needs to be recorded. Approaches such as these help to reduce the tendency to copy text directly without thinking it through.

### ➤ **Assessing and selecting relevant information**

Neate (1992) shows that the underlining of only key ideas and words in a text aids the later use and recall of information in other contexts. Lunzer and Gardner (1979) suggest that pupils should locate information in several different categories, and then colour-code these categories. For example, if studying medieval life, pupils might underline information about food and drink in one colour, travel and transport in another, clothing in another, and so on. If studying a piece of discursive text they might colour-code 'pro' arguments one way, 'con' arguments another, and perhaps assign a priority to the weight of each argument, indicating this by numbers in the margin..

If pupils need to summarise a text, or reach an overall view of it, they could be asked to focus upon each paragraph in turn and underline just one key phrase or sentence which, to them, seems to embody the paragraph's main theme. Alternatively, they could try to find a 'category' to which the information in each paragraph or section belongs, and label each paragraph accordingly.

➤ **Organising and recording the information.**

Neate (1992), Lunzer and Gardner (1979) and Wray and Lewis (1997a and b) all describe ways of teaching the recording of information,

- Wray and Lewis's 'KW(F)L' grid, described above, asks pupils to record such information in the final column: 'What have I Learnt?'
- An alternative is their 'QuADs' grid. Its final column has the advantage of obliging pupils to expand on the initial brief notes they made in the second column.
- Working together, or with the teacher, pupils may wish to devise a table of their own.

Teachers may worry that pupils will still be recording some of the original text at this stage. It is inevitable that some words, for example technical terms, may be reproduced verbatim, but teachers can promote the use of thesauruses, brainstorming of synonyms, etc, where possible, to encourage the habit of 'lexical search'.

Neate (1992) says that no one technique for making notes has been found to be superior to others. A range of approaches is likely to work with a range of pupils. Buzan (1995) advocates mind maps for those pupils who tend to think more in a 'visual' than in a 'linear' way.

➤ **Evaluating, interpreting, integrating and interrogating the information**

At this stage, pupils should no longer have access to the original text or texts from which they have been working, but only to the notes or tables they have generated since. They can then evaluate, interpret, integrate or interrogate the information, for example in a class discussion or in a feedback session. Here they can be asked to

initiate questions about what they have discovered, or be briefed for a further task, such as a piece of writing, a display, or a presentation.

➤ **Using strategies for remembering what has been learnt**

Fisher (1995) stresses the importance of 'cognitive coaching' in ensuring that pupils actually learn from what they have read and studied. He puts high value on the intellectual processes involved when pupils read to learn, rather than on 'the job's getting done'. He lists the following as key features of cognitive coaching:

- Giving individual pupils an appropriate focus for their learning and following it through in a structured, sequential way
- 'Reciprocal teaching', i.e. an interactive approach in which the teacher and learner take it in turns to teach or show each other what they have learnt
- Summarising, where pupils are encouraged to judge which ideas are important, to condense information and to communicate it as key ideas
- Explaining, i.e. structuring what is to be remembered, repeating what has been learnt, and reviewing how that learning is linked
- Modelling, where the teacher demonstrates ways of learning that the learner can understand, follow and imitate
- Giving positive feedback, i.e. reflecting what pupils have done well and how their learning is progressing.

Marshall and Rowland (1993) give practical advice to older pupils on techniques for remembering and memorising.

➤ **Presenting or communicating findings or points of view.**

If pupils are not yet adept at translating their research into a new, written form, it might be more appropriate to ask them to present it in a different form, such as an oral presentation, role-played interview, diagram, model, illustration or table. Wray and Lewis (1997a and b) argue that such translations of written information into other forms actually enable pupils to process and retain their learning more thoroughly.

If the pupils are required to produce a piece of writing, they should be able to call on support with the structure and linguistic features it may

well involve. In this context, Lewis and Wray (1998) examine the principles and usefulness of writing frames. For older pupils and for teachers, Hennessy (1994) and Smith (1994), and Marshall and Rowland (1993), give detailed, practical advice on planning, structuring, drafting and writing essays and assignments. Hennessy and Smith give particularly useful case studies of pupils' writing difficulties, and ideas on how to improve their written work.

### **WHAT MIGHT WE DO IN SCHOOL?**

- Use the checklist of study skills provided at the beginning of this launch pad to:
  - audit which of these you explicitly teach.
  - assess in which of these your pupils have difficulties.
  - decide which skills from the checklist are considered essential by various subject departments, assigning priority to the skills in each case
  - with colleagues, plan how to incorporate in future lessons work on the key study skills you have identified.
  
- In collaboration with colleagues, appraise the texts most commonly used in lessons and/or for homework, both by your department and by other departments:
  - Identify the various text types, such as report, explanation, procedure, persuasion, discussion. National Literacy Strategy materials will be helpful in this process.  
  
Discuss whether to review regularly with pupils the characteristics of these text types and how to read them.  
  
Consider displaying in the classroom labelled posters about these text types, which can then be used as teaching aids during lessons.
  - Review the readability of texts you commonly use in class, inviting pupils' own views. How complex are they? How easy is it to locate and access information?
  
- Regularly revise and practise, with pupils, methods of reading texts for research purposes: browsing, skimming, scanning, etc.

- Regularly revise and practise, with pupils, methods of extracting information from texts: identifying key words and ideas, underlining, note taking, etc.

## REFERENCES AND RECOMMENDED READING

Buzan, T. (1995) *Use Your Head*. London: BBC Books.

De Leeuw, M. and De Leeuw, E. (1965) *Read Better, Read Faster: The essential guide to greater reading efficiency*. London: Penguin Books.

Fisher, R. (1995) *Teaching Children to Learn*. Cheltenham: Stanley Thornes.

Hennessy, B. (1994) *How to Write an Essay*. Plymouth: How to Books.

Lee, J. (2005) *GCSE Success Essentials: Study Skills*. London: Letts/NACE

Lewis, M. and Wray, D. (n.d.) *Writing Frames: Scaffolding children's non-fiction writing in a range of genres*. Reading: Reading and Language Information Centre.

Lewis, M. and Wray, D. 1998. *Writing across the Curriculum: Frames to Support Learning*. Reading: Reading and Language Information Centre.

Lunzer, E. and Gardner, K. (1979) *Learning from the Written Word*. Edinburgh: Oliver and Boyd.

Marshall, L. and Rowland, F. (1993) *A Guide to Learning Independently*. Buckingham: Addison Wesley Longman.

Neate, B. (1992) *Finding Out about Finding Out: A practical guide to children's information books*. London: Hodder and Stoughton.

Smith, P. (1994) *How to Write an Assignment: Improving your research and presentation skills*. Plymouth: How to Books.

Wray, D. and Lewis, M. (1997a) *Practical Ways to Teach Reading for Information*. Reading: Reading and Language Information Centre.

Wray, D. and Lewis, M. (1997b) *Extending Literacy: Children reading and writing non-fiction*. London: Routledge.

**SEE ALSO LAUNCHPADS ON**

**Questioning skills**

**Thinking skills**

**Underachievement**