

Reading Activities

This list of activities can be modelled by the tutor in workshop session with trainees. Trainees can also be encouraged to identify what activities accompany the reading they ask pupils to do in class. At primary level it is appropriate for the science reading to be undertaken as part of the non-fiction work during the literacy time.

Directed Activities Related to Texts (DARTs): DARTs (Davies and Greene (1985); Sutton (1992) Chapters 5 and 6) give pupils the chance to think and reflect about what they are reading. The commonest examples are *Cloze* procedures where gaps are left in the text, but more demanding are scrambled texts which have to have their paragraphs re-ordered, diagram labelling (from text), annotations and many more.

Just as we pause in our teaching to ask questions and check understanding, so, with reading, we need to give pupils the chance to make sense of what they read. For mature readers, we can expect them to make their own notes from published texts, but even at years 12 & 13 many teachers do not trust their students to do this, so provide them with teacher-produced notes. If this happens, when do students make their own sense of it all? Are we asking them to learn these notes by heart for their A-level essay questions, trading it all in for a certificate enabling them to do the same thing at university?

Our aim must be to enable pupils to become students, to show them how to make their own notes and summaries. This process should start as soon as pupils are able to read, and DARTs are a useful starting point. They provide the opportunity for pupils, who still find reading hard and writing harder, to make a clean written record of their work, but a record that they have in some way created themselves and therefore internalised. The essence is that writing is minimised. Instead of asking pupils to copy completed texts into their books (this still happens!) we use the time to get them to read it and reflect on it.

The scientific writing that pupils will encounter can be broadly classified into four types:

- narrative (telling the story of a discovery);
- instructions (telling pupils what to do and how to do it, including word work and practical work);
- descriptive (describing a phenomenon, such as a volcano);
- explanatory (giving a theory, for example using particle theory to show how rocks, once solid, can become molten).

Only the first of these can be read as a story – the rest need to be worked at and internalised using DARTs.

The following summary of types of DART is based on the original work of David and Greene (1985).

Diagram labelling/table filling: Pupils are given an unlabelled diagram (e.g. the digestive tract) or unfilled table. They are supplied with a text that explains the parts and functions, which they use to label the diagram or fill the table

This document can be freely copied and amended if used for educational purposes. It must not be used for commercial gain. The author(s) and web source must be acknowledged whether used as it stands or whether adapted in any way.

Underlining key ideas: This is what many of us do when reading textbooks. In class we can photocopy a passage for our pupils, for example about the blood circulation, and ask them to underline sentences that describe blood flowing away from the heart.

Labelling bits of text: Pupils could ring all the scientific words to do with the circulation and link them to a short definition they write in the margin. They could add headings to summarise what each paragraph is about.

Sequencing: This is one of the most powerful activities linked to reading. Instructions for practical activities can be written in several steps that are written on separate cards. Pupils have to put them in a sensible order before they can undertake the activity. The pupils can then simply stick the steps into their note books. However this can be messy and time-consuming, so alternatively give out sets of laminated cards. When the pupils have sorted them successfully (with support if necessary) you can give out an A5 size completed version for them to stick into their books for the record.

Card sort: Pink cards could show scientific words and blue cards could have an explanation of what they mean. Pupils have to match them.

Loop game: Pupils are given cards (one each) which have a question on one side and an answer to a different question on the reverse, so that as each answer is given the pupil reads out the next question. However once a pupil has had their turn they play no more part in the loop. Try giving a whole sets of 28 cards to groups of, say 7 pupils, who have to co-operate to make the loop on their table, domino fashion.

Cloze: Leaving gaps in worksheets for pupils to fill in is probably one of the most widely used DARTs. Sometimes teachers will supply the missing words in a list, and sometimes they will supply the initial letter or the number of letters in the missing word. The aim is to ensure the pupils read the sentence with enough understanding to supply the missing word. Leaving the *working* words (*into, have, make, for*) out of a Cloze text can be very effective – it tests children's understanding of how the concepts are linked, rather than the meaning of words. Cloze texts suffer from the problem that pupils tend to want to find the missing word without understanding the text. Since each pupil needs to be given a copy of their own, it may be better to convert Cloze passages into scrambled texts, which require a greater understanding from the pupils, and less guessing. They get to keep a neat copy of the text with no missing words, but one which they have had to read and understand in order to reassemble it in its proper order.

Taken from Chapter 9 Children learning through rereading (pp 67-72) of
Ross, K., Lakin, E. and Callaghan, P. (2004) **Teaching Secondary Science**. (Second edition)
London: David Fulton

Ref: Davies F and Greene T (1985) **Reading for Learning in the Sciences**_ London: Schools Council - Oliver and Boyd

This document can be freely copied and amended if used for educational purposes. It must not be used for commercial gain. The author(s) and web source must be acknowledged whether used as it stands or whether adapted in any way.

<Reading activities> Authored by Keith Ross and Colleagues, University of Gloucestershire; accessed from http://www.ase.org.uk/sci-tutors/professional_issues/teaching_teaching/active_learning.php date created February 2005. Page 2 of 2