

PHILOSOPHY FOR CHILDREN
fostering communities of philosophical enquiry
and reflection in primary and secondary schools

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Theme 2 Philosophy for Children

teaching thinking through philosophical enquiry
in primary and secondary schools

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COMMENTARY

THEME 2: Philosophy for Children

teaching thinking through philosophical enquiry in primary and secondary schools

If one learns from others but does not think, one will be bewildered. If, on the other hand, one thinks but does not learn from others, one will be in peril.

Confucian Analects 11.15

The goal of helping students to become more effective thinkers is not new. 'The teaching of cognitive skills has been a major focus for education for over 2500 years' (Edwards 1991 p87). In China, as the above quote shows, the pursuit of wisdom is at least as old as Confucius (K'ung fu tse).

In his historical survey of cognitive education Mann (1979) argues that Plato is the parent of cognitive training as a mental discipline. The dialogues of Plato identify Socrates as the first to recognise the importance of dialogue as a way of structuring educational interactions. His view was that skilled reasoning is best learnt through a social process of questioning and argument. Through 'Socratic dialogue' teachers encourage a critical attitude to knowledge and help students to articulate and self-correct their thinking. This tradition is still alive and is reflected in growing interest in the use of philosophical enquiry in education (Nelson 1949, Lipman 1988, Paul 1991, Heckman 1993, Splitter & Sharp 1995).

One of the most successful attempts to build a coherent programme of theory and practice in teaching thinking has been the Philosophy for Children programme, devised by Professor Matthew Lipman and colleagues. Lipman founded in 1974 the Institute for the Advancement of Philosophy for Children (IAPC) at Montclair State College, New Jersey to research and develop the Philosophy for Children. The IAPC programme now consists of a number of short philosophical novels, accompanied by teacher's manuals, for use with children of all ages from 3 years to adult (see Vol. 1 part 2: *Teaching Children to Think* p171ff). The programme is now probably the most widely used thinking skills programme in the world. Sternberg (1984) says of it: 'no program that I am aware of is more likely to teach durable and transferable thinking skills'. The programme has been created, developed and evaluated over a period of twenty five years. The publications that follow comprise a major contribution to research and development of philosophy for children in this country,

and begin with introductory texts aimed at raising professional awareness of issues relevant to classroom discussion and philosophy for children (Parts 1 and 2).

Lipman was concerned at seeing so many of his students, successful products of their educational system, so lacking in the ability to articulate their thoughts or to give evidence of critical judgement. 'Why is it', he asks 'that while children of four, five and six are full of curiosity, creativity and interest, and never stop asking for further explanations, by the time they are eighteen they are passive, uncritical and bored with learning?' (Lipman 1982b p37). If, he wondered, education is supposed to be about teaching young people to think, why does it produce so many unthinking people?

I began to think that the problem I was seeing at the university could not be solved there, that thinking was something that had to be taught much earlier, before thinking habits became entrenched, so that by the time a student graduated from High School, skilful, independent thinking would . . . become a habit.

(Lipman quoted in Chance 1986, p41)

This view that thinking habits can become entrenched, or internalised through practice and training became a central thrust of his programme. Lipman has a transformational view of education, believing that children can be transformed by education, and to do this education must be transformed to make thinking rather than knowledge its guiding priority (Minnis et al 1990). Whilst a thorough grounding in the three 'R's' and traditional subject study was essential, Lipman believes that the transformation will come about through teaching a fourth 'R' - reasoning.

Lipman defines Philosophy for Children as 'philosophy applied to education for the purpose of producing students with improved proficiency in reasoning and judgement' (Lipman, 1991 p112). Reasoning, or rationality, is as we have seen a problematical concept. However the open-ended nature of philosophical enquiry allows for the expression of all kinds of critical viewpoints, including criticism of reasoning itself. The context for sharing these viewpoints is what Lipman calls a community of enquiry, a term coined by the philosopher Peirce to refer to the ideal process of scientific research (Peirce 1965). A community of enquiry can be said to have been achieved when any group of people act co-operatively in the search for understanding. Not only does each member benefit from the ideas and experience of everyone else, each person feels a valued part of the *whole* community. This structure shares characteristics of effective thinking groups, from political 'think tanks' to university research groups, from industrial research teams to school staffs, from families at home to classes in school (Senge 1990, Dryden & Vos 1994, Abbs 1994). This sense of community has a dual aspect: a rational structure for effective thinking

and shared ideas, and a moral structure of mutual respect and shared democratic values (Splitter & Sharp 1995).

The rational structure of a community of enquiry is characterised by the reasoning that occurs during the course of discussion. Cannon and Weinstein (1993) include 'interpersonal reasoning' and 'philosophical reasoning' among their list of 'reasoning skills'. Both these are characteristic of philosophical discussions, but they are more than reasoning skills, for they include dispositions and intellectual virtues (moral qualities). By interpersonal reasoning they mean 'reasoning in the context of other persons and different points of view and in a manner responsible to them' ...demonstrating the attitudes of a reasonable person: the willingness to offer and respond to reasons, the impartial search for truth ... and a commitment to making common sense.' What these represent are a number of dispositional injunctions (such as 'willingness' and 'commitment') that provide a moral and social framework for enquiry. These are not in themselves skills of verbal reasoning, but are the attitudes and dispositions that makes reasonable dialogue possible. This will involve developing a sense of responsibility for their own reasoning and for the reasoning of others, within a pedagogic context of co-operative learning and classroom dialogue (Parts 3 and 4).

Much of the research into co-operative learning points to the problems of implementing effective collaborative work in the classroom (Bennett 1991, Galton & Williamson 1992). One of the problems is that co-operative structures and opportunities, such as sitting pupils in groups and initiating shared experiences, do not necessarily result in genuine collaboration or sustained discussion. Co-operative learning is often used to achieve a variety of ends, including socialisation, but if it is to achieve cognitive and curriculum objectives then it needs careful design (Slavin 1980, 1983; Bennett 1991, Bennett & Dunne 1992, Topping 1992).

Three general forms of social learning can be summarised as:

- * *co-operative group learning* - collaborative group activity, such as the well-known 'jigsaw' method (Howe 1991)
- * *co-operative class collaboration* - whole class activity, such as class discussion or Community of Enquiry (Lipman 1980, Sharp & Splitter 1995)
- * *peer /pair collaboration* - pairs or small groups, such as 'think-pair -share' or peer tutoring (Topping 1988)

Each of these forms of learning can be linked to the idea of 'distributed intelligence' (Lipman 1993, Pea 1994), or to the more modest 'distributed cognition' (Perkins 1992). This view argues that human cognition is at its richest when it occurs in ways that are socially, physically, and symbolically distributed. People think and remember through interaction with other people, with all sorts of physical aids and socially shared symbolic systems. This is what Perkins calls a 'person-plus' concept of intelligence (Perkins 1992 p133ff). Defenders of the classic notion of intelligence would complain that real intelligence is what is inside people's heads. Those who argue that we should educate for and through a 'person-plus' view of intelligence say that intelligence is accessed not only through introspection (knowledge in the head) but also knowledge represented and readily retrieved through social, physical and symbolic resources.

Part of this supportive context can come from the use of new technologies (Salomen, Perkins & Globerson 1991). A traditional technology is the use of pencil and paper, which can be used to enhance both the physical and symbolic distribution of cognition or intelligence and there has been much useful research into ways of using of writing to sustain and contain thinking (Britton 1970, D'Arcy 1989, Czerniewska 1992). One of the potential weaknesses in the community of enquiry approach, as traditionally conceived, lies in utilising only social ways of distributing intelligence and not physical or symbolic forms other than speech. One aim of this volume is to investigate ways of utilising different ways of distributing intelligence as part of the community of enquiry .

These three ways of distributing intelligence or cognition can be summarised as:

- * *social distribution of intelligence* - co-operative group learning and collaboration, pair problem solving, philosophic discussion
- * *physical distribution of intelligence* - notes, journals, portfolios, posters, computers, video etc.
- * *symbolic distribution of intelligence* - verbal and visual forms including talk, texts such as stories, lists, concept maps, charts, tables, taxonomies and diagrams etc.

The challenge for teachers is to translate the theory of 'distributed intelligence' into learning opportunities that offer cognitive challenge for their students. An aim of the author's Philosophy in Primary Schools (PIPS) project was to research classroom

activities and resources that would provide opportunities for problem solving using social, physical or symbolic means, including philosophical discussion (Publication part 5). One of the published outcomes of this project explored the use of a picture book as a stimulus for children to discuss, write and draw their responses to fictional dilemmas (Part 6).

When does classroom discussion become philosophical? One indicator might be evidence of philosophical reasoning. Cannon and Weinstein (1993) argue that 'philosophical reasoning' can involve a number of things, firstly that philosophy involves thinking about thinking. This is the metacognitive, evaluative or self-regulative role that philosophy can play. Examples of evaluative questions in classroom discussion (adapted from Lewis, Wray & Rospigliosi 1994) might be:

- * What do we know (what does 'knowing' something mean)?
- * What do we want to know (what do we know already, what do we need to know)?
- * What have we learnt (what do we know now that we did not know before, how do we know we have learnt something)?

In another sense philosophical reasoning involves thinking about the quality of reasoning (critical thinking). Were we giving reasons? Were they good reasons? In a third sense it is about 'constructing conceptual frameworks or world views adequate to comprehend reality and human experience' (Cannon & Weinstein p602). This is the constructive and meaning-making aspect of philosophy (creative thinking). Philosophy is not a separate form of reasoning, but integrates all aspects the skills of thinking into one process. The claim of philosophy for children is that nothing achieves these ends more effectively 'than open-ended peer group discussions of ideas which the young people are interested in clarifying philosophically' (op cit p599).

One problem with the terms critical thinking and judgement is that they have both positive and negative aspects. I may be skilled at thinking and expert in judgement but use these skills for selfish ends. Being a critical thinker is perhaps as much a matter of who I am as of the skills I possess. Wittgenstein echoed this point when he wrote, 'I wish I were a better man and had a better mind: the two are really the same thing' (quoted in Hart, 1993 p643). Philosophy for Children aims to develop not only critical and creative thinking but also moral dispositions such as caring, sympathy for others and 'democratic virtues' such as turn-taking, self-correcting and seeing issues from a variety of perspectives (Sharp 1995 p30). The vehicle for moral education is

the community of enquiry which provides the context to practice and internalise these virtues. The relationship between philosophy in schools and moral education is explored in Publication part 7.

Paul (1987) proposes two definitions of critical thinking, a 'weak' sense in which the thinking is skilful but selfish, used in the pursuit of egocentric ends, and a 'strong' sense in which reasoning is allied to fair-mindedness. Peters (1973) speaks of the need to develop the 'rational passions' necessary to prevent our intelligence becoming the tool of our egocentric emotions. These rational passions are emotional dispositions that facilitate reasoning and enquiry like love of truth, a concern for accuracy and a need for reasons as grounds for belief. Scheffler (1991) talks of 'cognitive emotions', which are the emotions which service cognition, for example in being resilient in argument, identified by some authors as essential to moral development (Sharp 1993). Feminist philosophers have argued that some perceptions or judgements can be both cognitive and affective (Nussbaum 1986, 1992; Sharp 1994a). Reflective thinking which unites critical thinking with emotions such as empathy is what Lipman calls 'caring thinking'. Lipman's espousal of 'caring thinking' rightly emphasises the role of emotions in human affairs, but risks confusing feelings and emotions with reasoning. Feelings and emotions may be said to serve cognitive or moral ends but are not in themselves rational or moral. We need to be able to enter imaginatively into the lives of others if we are to understand what is morally salient in particular situations, and in this sense creative or imaginative thinking is essential for moral development (Murrin 1992, Rowe & Newton 1994). Narrative literature can play a central role in developing perception of character and situation (Nussbaum 1990). What children need, whether it is in discussion of real or imaginary moral situations, is practice in moral discourse including the giving and evaluating reasons for moral judgements.

Habermas claims that the distinctive idea of moral discourse is not to find universal laws but a general law which will be agreed to be a universal norm:

Only those norms can claim to be valid that meet (or could meet) with the approval of all affected in their capacity as participants in a practical discourse.

(Habermas, 1990, p66)

Habermas is here referring to an idealised conversation, and it is this idealised conversation through which a group discussing contestible and problematical matters of real concern comes to better judgements and sometimes to a consensus. There are problems with this Habermas/Lipman view of dialogical consensus which are addressed in Publication part 13. Some of the questions that arise include:

- * Does consensus within a community equate with moral goodness?
- * What is the relationship between moral consensus and moral autonomy?
- * What is moral development, and is there a link between kinds of moral discourse and moral development?
- * How is moral discourse to be taught?
- * What is the relationship between moral judgement and moral action?
- * In what ways can moral discourse help to build an ethical school or community?

Competence in moral discourse entails for Habermas the capacity to exercise reason in moral judgement (Habermas 1990, Noddings 1994). In discussing the moral questions recourse must be had to *informal reasoning*, that is 'skills of critical enquiry, problem solving, and rational evaluation in connection with concrete subject matters' (Cannon & Weinstein 1993). Examples of informal reasoning would include:

- * recognising similarities and differences
- * making distinctions and defining classes
- * identifying and categorising individuals
- * assessing evidence and adequate samples
- * seeking counter examples and alternative explanations
- * basing judgements on reasons and criteria
- * analysing relationships e.g. part/whole, means/ends
- * understanding analogies and metaphors
- * appreciating implications and consequences
- * interpreting and constructing meaning in experience and in art (Publication part 8)

Philosophy for Children aims to develop 'reflective moral judgement' (Cam 1993), but does that mean it has no predetermined set of values it wants students to adhere to? Reed (1991p6) says that 'democratic and egalitarian conditions are non-negotiable pre-requisites for philosophy in the classroom'. Sharp (1994 p3) states that 'in order for the community of enquiry to proceed, three basic values must be internalized by the students: civility, willingness to take risks and an appreciation of diversity'.

This appreciation of diversity comes through 'dialogue across differences', including differences of opinion, of experience, of culture, gender and race (Burbules & Rice 1993). Related values thought to be essential to the workings of a community of enquiry include 'cooperation and equality' (de Puig 1994 p38), trust and tolerance (Cam 1994 p22) and 'respect for persons' (Reed 1991). According to some this is evidence of the 'hidden agenda' of Philosophy for Children (Davson-

Galle 1995). Indeed for many, particularly in Eastern Europe and South American countries recently liberated from totalitarian regimes it is the explicit internalisation of democratic processes and values that the main educative value of Philosophy for Children lies (see Sharp 1994a). Does this mean that Philosophy for Children is a form of subtle indoctrination, a process of moral induction into a community governed by a few given principles? Or does it merely make explicit the sorts of behaviour which are pre-requisite procedures for reasoned group discussion?

One way of answering this question would be to distinguish procedural from substantive values (Lipman et al 1980 p86). It seems clear that in philosophical discussion values can be indoctrinated, for example the procedural values of the discussion eg turn-taking, no interrupting etc. can be established by the teacher and not discussed or referred to the community for agreement. Many of the values of Philosophy for Children are to do with democracy, justice, caring and respect for persons (Lipman 1991 p249-254) are not procedural as Lipman and his followers claim (Cresswell & Hobson 1995 p39) but are substantive and constitutive elements of a 'philosophy for life', and of moral and social values in a more general sense.

Lipman is influenced by the American critical thinking movement and the pragmatic traditions of Pierce and Dewey, and by feminist philosophy, but he traces the sources of his philosophy back further, to the regulative ideals of the Greeks: Truth, Beauty and Goodness. His view can be summarised as follows (adapted from Lipman 1994):

	TRUTH	BEAUTY	GOODNESS
Mode of thinking	critical	creative	caring
Mode of judgement	saying	making	doing
Division of enquiry (Aristotle)	theoretic science	productive science	practical science
Branch of philosophy	epistemology	aesthetics	ethics
Cognitive objectives (Bloom)	analytical	synthetic	evaluative

The notion of creative thinking is explored at some length in Vol. 1 Part 2 p29ff, and in a chapter on 'divergent thinking' in Part 10 p73ff. The links between the Socratic traditions of philosophy for children and creative thinking is discussed in Part 11. The author has published in the area of aesthetic education (Fisher 1994a), and has pioneered work on critical response to art through philosophical discussion with school and adult groups. This application of philosophical enquiry to aesthetic education was introduced to a wider professional audience in Fisher 1994a and in publication Part 8.

Lipman has often argued that teachers undertaking philosophical enquiry in the classroom need to be 'pedagogically strong but philosophically self-effacing' (Lipman 1988). As a philosopher he is clear about the principles of critical enquiry, but is less clear about the pedagogical principles which underlie effective classroom practice. What needs to underlie the practice is a set of teaching methods that will facilitate collaborative enquiry in the classroom and will help teachers to be 'pedagogically strong' in the pursuit of creating a community of enquiry in the classroom? One way to develop the pedagogic base of philosophy for children is to create a culture of action research and involve teachers in communities of enquiry reflecting on their own practice. This culture of collegiality and 'ownership' of curriculum development have been identified as key factors in promoting programmes for higher-order thinking (Mccartney & Schrag 1990). A report on one such research meeting is the theme of Part 9.

The value of narrative literature as a stimulus to critical thinking (what one might call critical literacy) has long been recognised (Cather 1919, Nussbaum 1990). Sometimes programmes for moral education include story materials, such as the 'You, Me, Us!' programme (Rowe & Newton 1994). Often stories are told in school sometimes as an aid to moral reflection, as in school assemblies, and many collections have been published (Fisher 1981, 1982, 1985; Bennett 1993). At other times stories from the great multicultural collections of the past - folk tales, fables, myths and legends, as well as classic and modern stories illustrating the moral problems of human life are introduced to students' lessons in literature and social studies. Here moral education becomes a conversation that is seen as participation in a tradition (Coles 1989, Bennett 1993, Noddings 1994). Story-telling sessions however do not necessarily provide contexts for intellectual or moral education. In practice they often lack the pedagogical framework for engaging students in critical discussion (Coles 1994).

There is a sense in which any fictional text can serve as a basis for philosophical discussion. Meek suggests 'reading a story is a way of discussing what might happen;

to ask 'what if' in the open dialogue of speech, or the inner dialogue of imagination' (1991 p45). Reading does, as she says, create 'a mental space for thinking' (op cit). But it is the quality of thinking that should concern us. To read is 'to think about meaning' (op cit), but as any reader of Enid Blyton or Agatha Christie can attest such a process can be enjoyed at a fairly automatic and unreflective level. If 'to read a book is, in a sense, to rewrite it' (Meek 1991 p182) then we need to expose children to the most challenging forms of fiction. We also need to engage children in the practices of critical literacy by providing opportunities to discuss and extend the meanings to be found in texts. But which texts?

The Philosophy for Children programme consists of a number of philosophical 'novels'. Others have followed Lipman in this format (McCall 1990). According to Lipman (1988) each novel has as a central theme the workings of the human mind, and a single purpose - to serve as springboards for intellectual debate. The great drawback to the novels is that they are not effective stories in any literary sense. They do not hold the interest as stories. Lipman sees this as an advantage. The books and stories that children read do not contain a rich range of philosophical questions, nor do they necessarily provide models of children as enquiring thinkers. On this view children have traditionally been equipped with books where anything problematic, in terms of everyday or philosophic problems, has been removed. Opponents of this view would argue that traditional stories and the best of children's novels and picture books are full of philosophic interest and the seeds of intellectual enquiry (Murriss 1992, Sprod 1993, Coles 1994, Wilks 1995).

In the UK the Lipman programme has faced a number of criticisms (Andrews & Costello 1992), and has not generally found favour with teachers (Coles 1995). One reason for this may be that, unlike other European countries, philosophy has never been part of the mainstream of our culture or academic tradition. The empiricist tradition of English philosophy has been inimical to the use of pure reason, and the dominance of contemporary Anglo-American linguistic philosophy has cut mainstream philosophy off from many of its traditional human concerns. However in the 90s there has been a resurgence of interest in the contribution that philosophy can make to values and ideas. Growing numbers of students are doing philosophy at 'A' level, philosophy courses are expanding in universities, 'Sophie's World' by J. Gaarder (1995), a history of philosophy in novel form, has become a best-seller in this country as well as across Europe, and there has been a growth of interest in philosophical enquiry in schools in this country (for some evidence of this see Appendix 2).

Other reasons for the slow growth of interest in the UK lie in the nature of the Lipman programme, and in the heavy curriculum demands that the introduction of the National Curriculum has placed on teachers in schools. The Philosophy for Children materials are American and involve problems in cultural translation. The programme is supported by large and complex Teachers' Manuals that require training in terms of explanation of method and modelling of the process. The initial problems that many teachers find with the programme include the impoverished literary style of Lipman's novels, their own lack of training in implementing philosophical discussion in the classroom and difficulties in linking this work to a given school curriculum. These elements became focal points for my own research, that is the need to develop:

1. a broader range of curriculum materials for philosophical discussion
2. research into teaching strategies for philosophical discussion across the curriculum
3. the development of a culture of research and training in philosophical enquiry for teachers in the classroom

Lipman argues against the use of existing children's literature as a stimulus for philosophical discussion. He distinguishes between children's need for *literal* meaning (scientific explanation), *symbolic* meaning (the kinds to be found in fairy-tales, fantasy and folklore) and *philosophical* meaning which is neither literal or symbolic but is essentially metaphysical, logical or ethical (Lipman et al 1980 p33ff). Children's fiction is suitable he suggests for literal and symbolic, but not for philosophical enquiry which is best facilitated through 'philosophical novels'. However much of the best of children's fiction includes philosophical elements in the form of metaphysical themes such as time, space and human identity; epistemological themes to do with the nature of knowledge and memory; logical themes to do with formal and informal reasoning, meaning and reference; and ethical themes to do with the rightness of actions and moral judgements. Lipman's novels express these themes in an expository way, but it is at the expense of the motivating and imaginatively nourishing qualities of the best of children's fiction.

Stories pose problems of interpretation, and in a sense reading is never completed, but is constantly under review and open to change. Stories are ideal for critical and dialogical enquiry, and as a way in to the criticism both of narrative and of cultural forms (Freire 1970, 1973, 1985; Bakhtin 1981). Many traditional fairy stories for example challenge our concepts of human intention and social cognition (Hinchcliffe

1995). Many modern stories and picture books challenge cultural stereotypes and conventional adult views of the world.

Murris has forcefully argued the value of using existing children's literature as a stimulus for philosophical discussion in the primary school (Murris 1994). Her research has focused on the use of picture books, particularly books in video format, to encourage both verbal and visual thinking (Murris 1992). An 18 month research project studying the use of the Murris picture-books for philosophical discussion with Year 1 children, mostly bilingual, in six schools found qualitative gains in 'thinking and reasoning; listening skills; expressing language; discussion and debating skills; confidence and self esteem' (Dyfed 1995).

A community of enquiry aims to provide the framework children need to encourage attention to linguistic meanings, and to a search for general principles to explain specific events in the narrative (Meadows & Cashdan 1988). Stories are also products of the historico-political milieu in which they were created and told and this also can form the basis of dialogic enquiry. Andrews (1989, 1993) points out that narrative and argument are inter-dependent. Stories often contain hidden argument and all good fictions stimulate mental acts such as supposing, guessing and judging. Dillon (1994 p14) distinguishes argument (which he characterises as a contest of two pre-formed opinions) from true discussion (which he says is 'never a matter of two sides'). What we are concerned with here is argument in the sense of competing and consensual opinions given voice through group discussion (Costello & Mitchell 1995). If we restrict children to the inner voice of their own private judgements then we limit the opportunities for mental response that good narratives offer. This questioning and exploration of underlying assumptions through discussion may be an important prelude to developing thinking and reasoning in writing. Berrill (1990) identifies a relationship between such 'oral groundwork' and subsequent written work, suggesting that the process of reasoning is not necessarily concluded or resolved in classroom dialogue.

Many of the skills that are taught and the understandings that are acquired at school, such as learning to read, write, and spell become automatic and internalised through practice. Much of children's literary experience can be of a routine kind devoid of intellectual stimulation, and a disjunction between reading and thinking can easily be established in children's response to reading (Baron & Sternberg 1987). Even these basic or routine skills are improved by a reflective approach to the act of learning (Wray 1994). Skills and practices of both a routine and a reflective kind are needed for learning (Cam 1995). Children who use words without thinking show a limited

application of intelligence. Children who simply memorise facts and do not know how to put their knowledge to use are trapped into routine ways of thinking. Children who seldom consider more than one possibility, become inflexible, unimaginative and have not learnt how to make the most of the opportunities present in any situation.

By interrogating and discussing a text in a community of enquiry children learn that a narrative often contains many more questions or problems than they first thought, and that questions (and answers) beget further questions in a dynamic and potentially endless process of enquiry. This reflection on narrative should aim to deepen understanding both of what is read, and of the world. What does the story say (literal meaning), and what do the messages of the story say (symbolic interpretation)? An aim of the the PIPS project was to see if traditional tales and other forms of narrative could extend the canon of texts used to develop these forms of critical response through philosophical discussion and other forms of communicative activity. The published outcomes aim to provide teachers with curriculum materials and a pedagogical framework for philosophical enquiry using stories as a stimulus (Parts 5, 12 and 13).

What is the evidence that philosophy for children achieves it's educational aims? The Philosophy for Children programme is established in more than thirty countries and there is a growing research literature on the effectiveness of the programme as it is being implemented and developed in different cultural contexts, for example Raitz (Guatemala) 1992, Jackson (Hawaii) 1993, Santi (Italy) 1993, Sprod (Australia) 1994a, Tock Keng Lim (Singapore) 1994, Sasseville (Canada), Palsson (Iceland) 1994, and Holder (Phillipines) 1994. The international spread of Philosophy for Children materials and methodology lends support to Lipman's claim that it is a pedagogy that is culturally non-specific (Lipman, 1980, 1988, 1997:1). However there are moral/cultural presuppositions built into the philosophy of the programme, which is better classified as culture-flexible. What makes it attractive to educators from very different cultural and national contexts is that it links a universal tradition of philosophising (or speculating about the world), with a content of universal appeal (stories), and educational aims which embrace both the cognitive (thinking and reasoning) and moral/social democratic ideals.

In Australia a Centre for Philosophy for Children was established in 1988 under the auspices of the Australian Council for Educational Research (ACER) which has been evaluating not only the initiation and implementation phases but institutional implementation of Philosophy for Children in schools in Australia (Cresswell 1993).

During my research trips to Finland (1992), US (1993/94), Belgium (1994), Malta (1995) and Australia (1995), and in my own (unpublished) PIPS research, teachers and trainers echoed the findings of published research that philosophy for children:

- * works best when teachers feel well motivated, supported and trained (Jackson 1993)
- * benefits are not immediate but accrue over time in terms of quality of student discussion (Palsson 1994)
- * lessons within a Community of Enquiry format show positive effects on the quality of thinking, and 'dialogical, dialectical and argumentative' reasoning (Santi 1993)
- * is an effective programme for teaching democratic community values (Raitz 1992)
- * has positive effects on students sense of self-esteem (Jones 1988, Sasseville 1994)
- * programmes benefit from curriculum extension through the use of culturally modified and curriculum-relevant materials (Holder 1994)
- * shows 'evidence of transfer of learning' in other subjects, such as improved written assignments and readiness to engage in discussion (Lim 1994b)

There have been a number of small-scale research studies in this country which found positive outcomes from teaching Philosophy for Children. Lake (1988) confirmed an earlier summary of research by Wolfe Mays (1985) comparing Feuerstein and Lipman:

Lipman's approach is more likely to turn out critically minded individuals, showing some sensitivity to the values of life, and with a desire to settle their problems in a rational way

Wolfe Mays (1985 p159)

Research studies showed the pupils using the Lipman programme three times a week over a six month period in a junior class had 'significantly greater gains in Reading Comprehension' compared to a control group (Kite, 1994 p84). A one year project in an inner-city comprehensive showed that the philosophy for children class made greater gains in three measured areas than a control class, including a 'modest though reliably positive effect on the reading ability as tested by the London Reading Test, an improvement in intellectual confidence as measured by self assessment on a 7 point

scale, and teacher assessment 'using pre-determined criteria relating to cognitive and inter-personal performance' (Williams 1993). Research in Dyfed schools using a philosophy for children intervention approach (using picture books) showed Year 1 children making positive gains assessed through a range of quantitative and qualitative measures, in terms of improved reasoning, language development in speaking and listening and in reading comprehension, and in measures of self esteem (Dyfed 1994).

This brief review of research shows that philosophy for children can be successful in helping to achieve a wide range of educational goals. These studies to a large extent share a common methodology, that of qualitative research. This is important as qualitative methods are best suited at this stage in the evolution of philosophy for children and community of enquiry, where the philosophic ground work is well developed, and where practitioners develop appropriate curriculum materials and refine teaching methods (Morehouse 1995). The following publications have derived from this qualitative tradition and have sought to offer a grounded theory of community of enquiry and philosophy for children. Grounded theory can be characterised as theory that emerges from the kinds of questions that we ask and the kinds of answers we find (Maykut & Morehouse 1994). On this view research knowledge grows from the knowledge base of the researchers as well as from the emerging patterns of the data. It is not simply an empirical task, but is also conceptual. Teachers need a rich theoretical basis on which to build and develop their practice. These publications try to achieve that difficult balance between providing a theoretical underpinning of practice, and offering advice on teaching strategies that can translate theory into successful practice. They are also polemical in the sense that they aim not only to inform professional knowledge of philosophical enquiry in schools but to inspire further research in the field. In particular they seek to find answers through action research to the following questions:

- * Can philosophy for children contribute to discussion, investigation and co-operative learning in primary and secondary classrooms? (Publication parts 1-4)
- * Can the teaching methods of philosophy for children be infused across the curriculum to help students think and learn? (Publication parts 5-10)
- * Can materials and methods for philosophical enquiry be developed relevant to the curriculum needs of UK teachers and students? (Publication parts 11-13)

The above questions and publications reflect the active involvement of the author in developing a culture of practitioner research in philosophy for children. The elements of this initiative and the research context for the author's publications since 1991, can be summed up as an approach to research as Socratic activity (Abbs 1994). The Socratic elements of this research involve promoting dialogue (engaged conversation) between teacher-researchers, the constant questioning of theory and practice (problem posing), the encouragement of alternative viewpoints (distributed intelligence), and the cultivation of research as a social activity (community of enquiry). The outcomes of this Socratic approach to research have included:

1. bringing teachers and researchers together to review practice and share research, including inviting Professor Lipman to attend a seminar with teachers in London (Fisher 1992e)
2. establishing with colleagues a national organisation to promote research and practice in philosophy for children (SAPERE)
3. founding with colleagues a national journal to publicise research activity and to submit this activity to peer review, the SAPERE Journal, and contributing articles for publication (Parts 2, 8 and 9)
4. organising research conferences, and presenting papers at national and international conferences to reach a wider professional audience (Parts 7 and 11, and Appendix 2)
5. generating funded research initiatives, such as the author's internationally recognised Centre for Thinking Skills (see Wilks 1995), and the Philosophy in Primary Schools (PIPS) project
6. creating with colleagues a national teacher-training programme (validated by RSA), and developing practitioner research into philosophy for children at Masters and PhD levels (validated by Brunel University)
7. publishing books, articles and curriculum materials on the theory and practice of teaching through philosophical discussion in schools (Appendix 1)

What the publications in this volume offer is a re-conceptualisation of philosophy for children, from its initial conception by Lipman as a programme of curriculum materials for US schools (Lipman 1980) to a methodology of philosophical enquiry across the curriculum with teaching methods and materials relevant to UK schools. These publications have contributed to a growing culture of practitioner research in philosophy for children in the UK. It is time now to consider a possible agenda, or perhaps several agendas for future research.

Projected developments include preparing for publication data arising from PIPS and other research projects to further inform, illustrate and assess classroom practice in philosophy for children, as reflections on practice (cf. Slade 1992), under the provisional title Philosophy for children. Further curriculum support materials arising out of current research are due to be published in the author's Stories for Thinking programme, including Poems for Thinking, Games for Thinking, Pictures for Thinking and Music for Thinking.

In addition to extending this empirical data future research in the UK will need is to establish long term evaluation projects that assess the outcomes of philosophy for children intervention across a range of qualitative and quantitative measures (cf. Williams 1993, Dyfed 1994).

Thirdly there is the need to extend collaboration of both individual and university research programmes to build a truly international community of research, including developing the concept of Socratic Education (Part 11) and of research as Socratic activity. A start has been made with the author's recent agreement to create an international archival site for transcripts of philosophical discussions with children (Morehouse 1995).

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The following is an introduction to and commentary on each of the publications presented in this volume.

THEME 2 Part 1

Discussion and investigation

Problem Solving in Primary Schools , 1987, Chapter 3 pp. 34-57

The use of stories to generate thinking in young children had been a theme in the work of various authors (Bettelheim 1976; Matthews 1980, 1984), and much interesting work was being done in this country during the 1980s through the National Writing Project (Czerniewska 1992). My aim was to link elements of theory with examples of classroom practice drawn from work in different LEAs, and propose a model of problem solving through story discussion that could enrich different areas of the curriculum. The book introduced the concept of Stories for Thinking (p42-46) which was to be developed in the author's later research and publications (see below).

The ability to think and solve problems is essential for full participation in the National Curriculum (Craft 1991, Dyfed 1994 p1). Many teachers who valued the notion of providing intellectually challenging teaching through the pedagogy of problem solving presented in this book, still identified a need to find a more fully developed methodology that would help them implement reflective discussion in the classroom. This issue was to be a major focus for the author's future research, and the linking theory to classroom practice in a variety of contexts was a characteristic of this research.

THEME 2 Part 2

Philosophy for who?

SAPERRE Journal, Vol. 1, No. 3, May 1993, pp. 17-20

A question frequently asked by teachers new to this field is 'Why *philosophy*?' This paper is one of a number of short texts produced by the author to introduce teachers to elements of teaching thinking through philosophical discussion. This paper also formed the basis of a number of conference presentations offering a theoretic context for philosophical enquiry with children and a stimulus for professional debate on these issues (see Appendix 3).

THEME 2 Part 3

Cooperative learning.

Curriculum, Vol. 14, No 1, 1993 pp. 23-35

In this paper, published in a refereed journal, the author reviews research into cooperative learning and suggests ways in which cooperative learning can be introduced into classrooms with the aim of developing thinking and learning skills. It does not directly relate cooperative learning to philosophical enquiry, but aims to show how a communicative framework for learning can be created in a classroom through the use of a number of teaching strategies including paired work, small group discussion and discussion in large groups. It offers ways of evaluating groupwork, and has been found useful by teachers in trying different groupings, including the use of philosophical discussion in smaller than whole-class groups.

In correspondence arising from this and other publications there were numerous requests from teachers and student-researchers asking for more information on teaching strategies to support cooperative learning and discussion in the classroom.

THEME 2 Part 4

Talking to learn.

Aspects of Education No. 49, 1993, pp. 36-49

The National Curriculum in England and Wales called for the implementation of a range of teaching strategies, including cooperative learning, and also for a greater emphasis on Speaking and Listening which was the first Attainment Target in the Orders for English (HMSO 1990). There had been an emphasis in curriculum development in the area of oracy in the late 1980s in this country through the work of the National Oracy Project, but research found many teachers were not providing good models of discussion and revealed ways in which teachers sometimes negated their purpose of supporting learning through talking (Norman 1991). This paper, published in a refereed journal, aimed to identify some teaching strategies that could support 'talking to learn' in the classroom. It focused on Philosophy for Children as an exemplary strategy, and on what the author has identified as a 'Socratic structure' for classroom discussion, and illustrated it with an excerpt from a transcript of philosophical discussion facilitated by the author within such a Socratic structure.

THEME 2 Part 5

Stories for Thinking: the Philosophy in Primary Schools (PIPS) project Early Child Development and Care, Vol. 107, pp. 85-96

Stories have long been seen as a natural stimulus for discussion and investigation in primary schools (Fisher 1981, 1987). The focus of this paper is to show ways that stories can be used to generate philosophical discussion and so develop the thinking and literacy skills of primary children. The paper was written in response to an invitation from this international journal to present an introduction to the Philosophy in Primary Schools (PIPS) research project. The paper charts a theoretical background for the research, and draws on findings from the project to show how stories can be used to generate higher order thinking and language learning in young children.

The particular contribution of the PIPS project in terms of publications has been the Stories for Thinking programme. A paper describing the programme has been commissioned for a book on European thinking skills programmes (Part 12). The first publication of the programme is Stories for Thinking (Nash Pollock 1996), and an excerpt from the book is included here (Part 13). This programme will include a number of published elements, showing how philosophical discussion in schools can be generated through the use of different narrative elements - stories, poems, pictures, music etc. The genesis of the programme can be traced back to an excerpt from Problem solving in primary schools (Part 3) with which this theme begins.

THEME 2 Part 6

Would you rather...? Discussing dilemmas in a Community of Enquiry Values Education, Vol. 2, No 1, 1994, pp. 7-10,

Common questions raised by teacher researchers include: *How can I implement a community of enquiry in my classroom ? What stimulus should I use? How might I begin my classroom research?* In this paper the editors of a professional journal asked the author to share classroom activities which could provide starting points for action research in the classroom. Feedback from teachers and students since the publication suggest that the ideas in this paper have been replicated successfully in many classrooms and have provided one fruitful way to implement research into children's moral thinking and a useful starting point for creating philosophical discussion in a community of enquiry setting.

THEME 2 Part 7

Moral Education and Philosophy in Schools.

NAVET Papers, Vol. X, 1994, pp. 10-13

In the early 1990s there was a growth of interest in moral education. This interest was stimulated by a number of developments such as nationally disseminated curriculum guidance documents (NCC 1990, NCC 1993, OFSTED 1994), certain widely publicised events such as the Jamie Bulger case, and from the need for schools to respond to the inspection of their moral and social curriculum provision. This paper was a response to requests for information from teacher researchers on ways moral education policy and practice could be developed in schools. It brought together a number of elements including an introduction to theory, reference to my own research on the use of moral dilemmas, and a report on the international conference on moral education the author had organised at the West London Institute in 1993. This introductory paper is modest in scope but it does raise a number of questions which have provided teachers with a framework for subsequent research and publication.

THEME 2 Part 8

Philosophy through art.

SAPERRE Journal, 1, 8, 1994, pp. 7-10

It is widely acknowledged that the application of 'community of enquiry' methods is not well developed in terms of subject application (Splitter & Sharp 1995). Trying to establish philosophy as a curriculum subject in its own right runs the risk of cutting it off from the pressing curriculum concerns and responsibilities of teachers. If we are trying to redefine teaching and learning as an enquiry-based activity, then we need to show teachers how to tap into the conceptual bases of their disciplines so that they can help students explore contestable issues through philosophical enquiry in every curriculum area, including art.

Much of the author's published work has sought to show how different curriculum subjects can be enriched by an enquiry-based approach (Fisher 1987, 1989, 1990, 1991, 1992, 1994b and in press) and one element of this was a primary art programme (Fisher 1994a). In this short article, based on research undertaken in schools (the PIPS project) and with adult classes, the author introduces his approach to philosophical enquiry through art.

THEME 2 Part 9

Research Day on Philosophy for Children.

SAPERE Journal, Vol. 1, No. 9, 1995, pp. 14-17

One of the aspects of the 'philosophy for children' movement in this country, in which the author has played a leading role, is its cooperative and collegial nature. A key element in the growth of interest in philosophy for children has been the creation of a national organisation (SAPERE), a national system of training, of a growing body of publications relating to theory and practice, and the creation of a research culture involving local research conferences, seminars, and meetings as well a growing and supported network of researchers (recently linked by Internet).

The author has organised a regular series of meetings for teacher researchers in philosophy for children at West London Institute (later Brunel University). This paper is a report of the meeting. Researchers from this group are contributing to a book on philosophy for children for the UK being researched and written by the author.

THEME 2 Part 10

Teaching Children to Learn.

Stanley Thornes, 1995, pp. 176

This book provides a guide to the teaching strategies the author has found most effective in his research into the theory and practice of teaching thinking through philosophy for children.

In a critical review of the book for the British Journal of Educational Psychology (in press) Geva Blenkin, Senior Lecturer at Goldsmiths' College, University of London, wrote:

'Teaching Children to Learn' did not offer a prescriptive programme of teaching strategies but aimed, instead, to help teachers to make education an empowering experience for children. And, by employing a lively, well-informed and accessible style, Fisher provides an absorbing introductory guide on how this might be achieved ... His aim is to find ways of enabling teachers to evaluate their teaching in order to ensure that they are fostering and not inhibiting children's learning. His strategies are designed therefore, to enhance these evaluations ...and provide the reader with an excellent coverage of relevant research evidence.

The reviewer did however offer some points of criticism. Firstly she found the title 'rather off-putting' for she is 'very sceptical of claims that it is essential to teach children how to learn'. Secondly she argues that 'to provide adequate coverage within each chapter, Fisher is obliged to resort to a short-hand style which is more appropriate to a report or a lecture outline than to the text of a book'. In particular 'that most difficult but vital concept in teaching and learning, 'metacognition', is explained in six bullet points, one diagram and three paragraphs of text'. Thirdly, although 'the book's strength lies in the author's ability to provide succinct and yet clear outlines of each strategy ... it also leads to the book's main weakness ... At no stage does the author explain what a teaching strategy is and how his ten chosen topics share defining characteristics'.

The review ends:

It is full of thoughtful guidelines on how professional practice might be developed. As such it provides a refreshing return to the genuine debates about teaching and learning in schools. And I would fully endorse the author's view that 'if helping students to become more effective thinkers and learners is a valid goal of education, then this is a research project which involves us all' (p.ix).

Invited by the journal British Journal of Educational Psychology (in press) to respond to the above review, the author made the following points in reply:

'Teaching Children to Learn' is written as a companion to the author's 'Teaching Children to Think' (Stanley Thorne), published in 1990, which explored in more detail the nature of thinking and of thinking skills. The book was written in response to requests from teachers to provide a practical guide to teaching strategies that help develop effective learning across the curriculum. The ten chapters each focus on a particular aspect of learning, and taken together could provide a framework for an active learning policy relevant to any learning community, classroom or school.

Geva Blenkin, in her generous review, says the title is 'rather off-putting' as she is 'sceptical of claims that it is essential to teach children how to learn.' The real barriers to learning include, as she says, 'an inappropriate curriculum' and 'inadequacies in the professional abilities of teachers'. The possible causes of educational failure are varied and often difficult to diagnose. Many seem to stem from what can be called 'cognitive confusion', caused not only because children cannot overcome blocks to learning, but they have not learnt how to be effective learners in their community, class or school. The message of the book is that learning is best achieved through active enquiry, and that certain teaching strategies help to foster the activity of mind necessary for learning to take place.

The reviewer is critical of the style of writing in the book, which reads in parts she says more like 'a report or a lecture'. This is true. It is guilty in part of 'death by bullet points'. It was written with a clear sense of audience and purpose - an audience comprising of busy teachers and students seeking the stimulus of an informed and manageable read, and with the purpose of providing a useful guide on how professional practice might be developed. The weakness of this approach, as Blenkin says, is that it simplifies what is complex, for example the concept of metacognition. As Thoreau once said: 'Seek simplicity ... but distrust it'.

In a sense, as a reviewer pointed out about 'Teaching Children to Think', the whole book is about metacognition. It is about helping children (and teachers) to think about

thinking and learning, to support teachers as reflective professionals, and children as reflective learners. The problem is that many teachers have little time or space to be 'reflective', and children are not always thoughtful about what they are learning, or why they are learning or how they could be better at learning. In a sense we all suffer from some form of metacognitive confusion. We do not know how our brains work, we are not fully aware of ourselves as learners, nor of our potential for learning. As Blenkin says this book does not do justice to the complexity of the concept of metacognition* - that awaits a future book. The trouble as NF Simpson once remarked if you fertilise a problem with a solution you end by hatching out many more problems, or in this case books.

A further criticism voiced in the review is that nowhere in the book is the concept of a strategy adequately defined, nor is it clear how some strategies are to be differentiated from others. The term 'strategy' is used in the dictionary sense of a plan of action or policy (the word derives from the Greek for 'generalship'). We need to develop teaching and learning policies/strategies, not only because they are required by Ofsted, but because without them teaching tends to become less focused and less effective. Our strategies reflect our personal practical knowledge as teachers, but they should also be informed by public knowledge (for example by a range of research), be tested in practice and judged against our philosophy or world view of education.

Public knowledge		Personal practical knowledge
	Teaching strategies	
Philosophy or world view		Current practice

The teaching strategies outlined in this book are not intended to seem isolated and distinct categories, but inter-related as powerful and practical ideas that need, to be understood and acted upon. These strategies are:

- 1 *thinking to learn* - creating a thinking curriculum
- 2 *questioning* - developing enquiry skills
- 3 *planning* - learning to plan
- 4 *discussing* - talking to learn through dialogue and discussion
- 5 *cognitive mapping* - showing how to organise thinking and learning
- 6 *divergent thinking* - helping children make learning their own
- 7 *cooperative learning* - facilitating social contexts for learning
- 8 *coaching* - cognitive coaching to help individual learners
- 9 *reviewing* - encouraging self-evaluation of learning
- 10 *creating a learning environment* - supporting a learning community

If children are to become more effective in their learning they need not only to know how undertake particular tasks and to solve particular problems, they need to solve the problems of understanding and of self regulation. In this they need help, and this book aims to offer strategies that help in 'teaching children to learn'.

The teaching strategies identified in Teaching Children to Learn, and exemplified in the community of enquiry approach to philosophical discussion with children, aim among other things to develop metacognition. Metacognition was a term introduced by Flavell in 1976 to refer to: 'The individual's own awareness and consideration of his or her cognitive processes and strategies' (Flavell 1976). Vygotsky (1962) was one of the first to realise that conscious reflective control and deliberate mastery were essential factors in school learning.

Flavell argues that if we can bring the process of learning to a conscious level, and help students to be more aware of their own thought processes, to become more reflective, then we can help them to gain control or mastery over the organisation of their learning. On this view effective learning is not just the manipulation of information so that it is integrated into an existing knowledge base, but also involves directing one's attention to what has been assimilated, understanding the relationship between the new information and what is already known, understanding the processes which facilitated this, and being aware when something new has actually been learned. Effective learning is not just a matter of innate intelligence. We must not fall into what de Bono calls the 'Intelligence Trap' (de Bono 1985), and Boorstin (1985) calls 'the illusion of knowledge', which is that the greatest obstacle to discovery lies in what people already believe they know or can do. They are trapped in what they already know, and are not open to what may be new. Some students are more competent at learning effective strategies and applying them appropriately, while other sometimes more intelligent or knowledgeable students can be remarkably unintelligent in their approach to learning.

Binet believed that self criticism was a central factor in intelligence, that it is not inborn but must be nurtured through education. Flavell (1981) suggests this metacognitive ability changes with age, and that older children are more successful learners because they have internalised a greater quantity of metacognitive information. Donaldson (1983) however considers that failure to use these strategies is not related so much to age but to experience, and that can intervene to help even young children to develop some of the metacomponents that are the strategies of successful learning. Perkins (1987, p36) suggests the value of developing a repertoire of cognitive and metacognitive strategies: 'Like compound interest, they increase the learner's intellectual capital. The tactic 'try to make up a tactic and use it' is a simple example.'

What are these metacognitive strategies? Nisbet and Shucksmith (1986) suggest a set of six strategies for successful learning, which involve:

- asking questions,
- planning, monitoring,
- checking,
- revising
- self testing.

Harry-Augstein & Thomas (1985) feel such strategies do not go far enough. they argue that learning depends on 'conversations', on the negotiation of personal meanings through dialogue with others, leading to understanding. These conversations can be internal, but are particularly effective carried out in pairs or groups where different ways of interpreting experience can be explored to mutual benefit. Fisher (1995) summarises a number of 'teaching to learn' cognitive strategies identified in recent research, including 'discussing' and 'co-operative learning', as among those that help develop metacognition. Perkins and Salomon (1989) claim that metacognition is likely to be an essential element of any programme which is successful in developing thinking skills.

Karmiloff-Smith (1991) believes it is this ability to be reflexive in the sense of being conscious of our own thought processes which takes learning by the human species far beyond that of any other animal.; 'The human system's capacity to represent recursively its internal presentations allows us eventually to become grammarians, poets, philosophers, physicists , and so forth' (p182). In the context of this study we will be considering how children can become philosophers, and suggesting that philosophising may help develop metacognitive awareness.

Von Wright (1992) distinguishes two levels of meta-reflection. Low level reflection involves the thinker:

'reflecting on her means of coping in familiar contexts. However ... she is unlikely to be capable of reflecting about herself as the intentional subject of her own actions.'
(von Wright 1992 p60-61)

Higher level reflection is what we would generally call metacognition:

Reflecting about one's own knowledge or intentions involves an element which is absent from reflection about the surrounding world....in order to reason about how I reason, I need access to a model of my reasoning performance.
(von Wright 1992 p61)

This distinction between two levels of reflection as von Wright argues, mirrors the distinction Vygotsky draws between consciousness in a broad sense ('soznanie') and conscious awareness ('osoznanie'). Brown (1983, 1987) defines four strands in her discussion of the literature on metacognition:

1. verbal reports as data on self knowledge of cognitive processes (e.g. Flavell)
2. executive control within an information-processing framework (e.g. Sternberg)
3. self regulation, control and regulation of a person's cognition (e.g. Piaget)
4. other-regulation, involving social mediation of thinking by others (e.g. Vygotsky)

Brown claims that two versions of metacognition are often confused, namely 'the essential distinction between self regulation during learning' and 'knowledge of, or even mental experimentation with, one's own thoughts' (Brown et al 1983 p122). Adey & Shayer (1994) agree with this distinction, which they categorise as *going beyond*, and *going above*, the present learning behaviour. Going beyond one's present repertoire of reasoning is linked to 2,3 and 4 in Brown's list above. This can be equated with what Newman et al (1989) call 'construction zone activity', a concept derived from Vygotsky's Zone of Proximal Development, which refers to mental activity, usually of a collaborative nature, which involves children going beyond their present levels of competence. One writer has described it, in words which could equally evoke Socratic enquiry at its best, as:

... a magic place where minds meet, where things are not the same to all who see them, where meanings are fluid, and where one person's construal may preempt another's.

(Sheldon White, foreword to Newman et al 1989)

Some programmes aim to teach various of the component processes that are thought to be involved in intellectual tasks. Approaches such as Process Based Instruction (Ashman & Conway 1993) attempt explicitly to teach the metacognitive strategies involved in planning and evaluating problem tasks. Others argue that such problem solving strategies are not sufficient. They also stress the need for problem posing (Brown & Walker 1983, Fisher 1987) or what I call in the book questioning skills (p15ff). Metacognitive teaching strategies such as 'reciprocal teaching' discussed in the book (p112-113) are reported as producing considerable gains in comprehension among poor readers (Palincsar & Brown 1984, Brown & Palincsar 1989).

Pramling argues that metacognition depends on content and context: 'One reason for not teaching strategies, in other words, is that these strategies do not exist in general terms, but only in relation to particular content' (1988 p267). This assumption, that

'children's thinking cannot be separated from the world since thinking is always directed towards something has, for her, its origin in the school of phenomenology (Pramling 1990). For Pramling the focus of teaching should not be on skills training or teaching for transfer, but a metacognitive approach to thinking about curriculum content (her approach is what we have identified as M1 'thinking about thinking'). Pramling (1988) divides this process into three stages, which can be summed up as moving from the what level of cognitive description (CD), to the how level of cognitive extension, to the why level of metacognition:

1. focus on *what* the child is thinking about a content (CD)
2. focus on *how* the child is thinking about the content (CE)
3. focus on the child's thinking about his/her own thinking about the content (M1)

One reason why Pramling may be so distrustful of cognitive skills training is that her research is primarily centred on pre-school children, where if children are at a concrete-operational stage generalisable skills may not seem so relevant. However there are cognitive education programmes for pre-school children such as High Scope which aim to develop general cognitive abilities, particularly in planning and reviewing, although generally in the realm of CE rather than M1 (Hohman & Weikart 1995).

In the book the author draws upon and quotes from his classroom research into philosophy with children (see for example p 52-54). The teaching strategies quoted, such as questioning, planning, divergent thinking, cooperative learning and reviewing are all those associated with the theory and practice of philosophy for children but are here generalised to encompass teaching for thinking across the curriculum. The book suggests answers to the central educational questions of how should children learn and explain why should children be educated this way (Alexander 1992), as well as to offer professional support to teachers in developing this kind of education (Fullan 1992). There is evidence from the responses of teachers communicated to the author and from this review that, despite the shortcomings discussed above, this publication makes an 'important and welcome contribution' to literature in this field and to professional reflection on teaching and learning.

THEME 2 Part 11

Socratic Education

Thinking, Vol. 12, No. 3, 1995, pp. 23-30

In Europe philosophers such as Nelson and Heckmann have led a renewed interest in Socratic Dialogue as a means of philosophical enquiry and as an enrichment of educational practice (Nelson 1949, Heckmann 1993) and the publication that follows will draw upon both the American and European traditions of Socratic enquiry.

There has been a renewal of interest in modern times in Socratic pedagogy (for example see Nelson 1929, 1949; Spiegelberg 1964; Ferguson 1970; Vlastos, G. 1991; Lipman 1991, 1993; Gower & Stokes 1992; Ross 1993; Heckmann 1993; Paul 1993; Abbs 1994; Gaarder 1995). The literature reveals many different conceptions about what form Socratic pedagogy should take. We know from research that although questioning is a key skill in teaching that many teachers observed in classroom settings seem to lack skill and insight in the use of questioning to foster thinking and learning (Morgan & Saxton 1991, Alexander 1992, Wragg 1993). If as Nelson states (1949 p1) 'The Socratic method, then, is the art of teaching not philosophy but philosophising, the art of not teaching about philosophers but of making philosophers of the students', then it may have much to offer teachers today in their efforts to create communities of philosophical enquiry through the use of questioning in their classrooms.

In papers presented at two international conferences in 1995 the author offered a re-conceptualised pedagogy for Socratic teaching as a method to develop student thinking and as a means of facilitating philosophical discussion in the classroom. As the two papers repeat similar arguments only one is included in this volume.

This paper explores the use of the Socratic method in teaching to show how creative thinking can be promoted through dialogical enquiry. Two broad approaches are outlined - formal lessons for students in Socratic enquiry, and an infusion approach to Socratic teaching across the curriculum. The European tradition of formal Socratic enquiry is compared to the American tradition of Community of Enquiry. Evidence is drawn for the Philosophy in Primary Schools (PIPS) project in London schools, to illustrate ways of building a learning and teaching community in which creative thinking and questioning play central roles.

THEME 2 Part 12

Stories for Thinking: a programme for developing thinking and literacy skills.

In J.H.M.Hamers & J.E.H Van Luit (eds.) (in press) Thinking Skills and Teaching Thinking, Utrecht: University of Utrecht

This paper was originally commissioned for a European conference on Thinking Skills and teaching Thinking to be held at Utrecht University, Holland in October 1995. The conference itself was postponed, but a volume of invited papers from 'European experts in the field of thinking and instruction' was put together by the organisers to provide an up-to-date vade mecum on the theory and practice of teaching thinking for researchers and students. The paper will appear in Part 2 of the book under the theme of 'Research Issues' (theory, programmes, evaluations).

The paper is an extended version of the entry on Stories for Thinking (Fisher, in press) in the 'European Programmes for Teaching Thinking - Inventory and Classification into Categories', J.H.M Hamers & M. Th. Overtoom (in press), Utrecht: Utrecht University.

Stories for Thinking is a programme of curriculum materials aimed at helping teachers and parents develop the thinking and language skills of primary-age children through philosophical discussion. The materials and methods presented in the Stories for Thinking programme were trialled in schools during the PIPS project (see Publication part 5). It responds to requests from teachers for curriculum support in meeting the National Curriculum (and Scottish 5-14) requirements in teaching English, especially in Speaking and Listening and Reading, and for stimulus materials for philosophical discussion relevant to the curriculum needs of UK schools.

Future plans for the programme include publishing the following extension materials

- * Poems for Thinking
- * Pictures for Thinking
- * Music for Thinking
- * Thinking Games

Curriculum materials and teaching strategies for this programme are at present being trialled in schools by teacher researchers linked to the PIPS project. The programme is planned to be published at the rate of one book a year from 1996, and an evaluation of the project will be developed using a range of qualitative and quantitative measures (Quinn-Patton 1990, Dyfed 1994).

THEME 2 Part 13

Stories for Thinking: a resource book for teachers.

Oxford: Nash Pollock (in press)

Stories for Thinking is a response to the need teachers have for a flexible programme, that can be used in a range of teaching contexts including use with individual children, small groups, whole classes and larger groups of children, such as a school assembly. The book is a practical outcome of the Philosophy in Primary Schools project, and of collaborative research with a group of teacher researchers.

Stories for Thinking includes an introduction to ways of using stories to promote children's thinking and learning. a collection of multi-cultural stories for children 6 - 12 years to enjoy and to think about discussion plans and thinking activities related to each story.

The introduction shows how stories can be used as a stimulus for thinking and discussion. It shows how a community of enquiry can be created, using questioning techniques, group discussion and other activities to develop thinking skills that can be applied across the primary curriculum, provides an ideal introduction to doing philosophy with children and includes a selected list of books and resources on stories for thinking.

Thirty stories retold from traditional sources come from a variety of cultures. They aim to tap children's curiosity and sense of wonder. The stories can be enjoyed for their own sake, and can be used to help engage children in thinking, encouraging a search for meaning that will enrich and extend their understanding of their own lives and the lives of others. The stories provide an ideal context for developing speaking, listening, and response to literature.

With each story are questions to challenge and extend children's thinking about the story and a discussion plan on a major theme from the story. Topics include the nature of truth, goodness, fairness and friendship. Follow-up activities are suggested to encourage children to expand their understanding of key concepts from the stories.

The Introduction to the book which presents the theoretic context to the programme's approach to philosophical discussion in the classroom, is contained in the paper cited above. The excerpts presented here include the contents page and two sample units of the curriculum material (5pp).

Conclusion

The published work included in this thesis is such as may be expected of candidates who have fully applied themselves to a period of research, in this case stretching over ten years. The work makes a distinct contribution to knowledge in the field of teaching thinking, with a focus on philosophical discussion in primary and secondary classrooms. It includes contributions to pedagogic theory in a number of areas including Socratic teaching, discussion and cooperative learning strategies that can help develop communities of enquiry in the classroom. In addition innovative curriculum materials have been developed, such as Stories for Thinking, which are firmly grounded within the theoretical context.

The publications are the result of the author's own work, although due acknowledgement is given to those who have contributed to the collaborative nature of this research. The work is largely conceptual, but is rich in illustrative work from classroom contexts. The work has introduced UK teachers to what has been called the 'cognitive revolution' in education, and has enabled a wide range of teachers to re-conceptualise their teaching, and to become co-researchers in exploring and extending their pupils' thinking. Elements of the work are identified as key texts in the research literature on many training courses (for example those run by SAPERE), and is cited in a growing number of national and international publications.

The publications that follow present a coherent body of work, and one that is continually being expanded. The author's research is ongoing and further publications are expected on the theory and practice of Philosophy for Children (as outcomes of the PIPS research), curriculum materials in the Stories for Thinking programme, and further work on ways to develop pupils' metacognition in classroom contexts. In a sense the task is a humbling one, for as Socrates observed long ago the more one discovers the more one realises the extent of one's ignorance.

The publications derive from a concept of the researcher as reflective practitioner. They are provisional solutions to some of the central problems of education. They present philosophy as a process of progressive problem solving in which we are called on, as teachers and as learners, to continuously rethink and redefine our tasks. They embody a view of the future of education not as a concept where all problems have been solved, but a realistic vision in which philosophical enquiry and problem solving will be a continuous and highly-valued part of every learning community.

Volume 2 Publications

- Part 1 *Discussion and investigation..*
Problem Solving in Primary Schools, 1987, Chap. 3, pp. 34-46, 55-57
- Part 2 *Philosophy for who?*
SAPERE Journal, Vol. 1, No. 3, May 1993, pp. 17-20
- Part 3 *Cooperative Learning.*
Curriculum, Vol. 14, No. 1, Spring 1993, pp. 23-35
- Part 4 *Talking to Learn: Creating a Community of Enquiry.*
 Socratic Education. Aspects of Education, No 49, pp. 36-49
- Part 5 *Stories for Thinking: the Philosophy in Primary Schools (PIPS) project.* Early Child Development and Care, Vol. 107, pp. 85-96
- Part 6 *Would you rather...? Discussing dilemmas in a Community of Enquiry.* Values Education Vol. 2, No 1, pp. 7-10
- Part 7 *Moral education and philosophy in schools .*
NAVET Papers, Vol. X, November 1994, pp. 10-13
- Part 8 *Philosophy through art..* SAPERE Journal, Vol. 1, No. 8, pp. 7-10
- Part 9 *Research Day on Philosophy for Children .*
SAPERE Journal, Vol. 1, No. 9, pp. 14-17
- Part 10 Teaching Children to Learn. Stanley Thornes, pp. 176
- Part 11 *Socratic Education..* Thinking, Vol. 12, No. 3, pp 23-30
- Part 12 *Stories for Thinking: a programme for developing thinking and literacy skills.* In J.H.M.Hamers & J.E.H Van Luit (eds.)
Thinking Skills and Teaching Thinking, Utrecht: University of Utrecht
- Part 13 Stories for Thinking: a resource book for teachers.
 Oxford: Nash Pollock 6pp

THEME 2 Part 1

Fisher R. (ed.). (1987) *Discussion and investigation.*

Problem Solving in Primary Schools Chapter 3, pp. 34-46, 55-57

These excerpts from Chapter 3 of Problem Solving in Primary Schools (see also Vol. 1 Part 1) introduce the theme of problem solving through discussion and investigation, with reference to philosophy for children and the use of 'stories for thinking'.

This chapter also contained case study examples of classroom research written by teachers (p47-54), which are not included here.

3 Discussion and investigation

'Why is a raven like a writing desk?'

'Come we shall have some fun now!' thought Alice, 'I'm glad they've begun asking riddles. I believe I can guess that!' she added aloud.

'Do you mean you think you can find out the answer to it?' said the March Hare.

'Exactly so,' said Alice.

'Then you should say what you mean', the March Hare went on.

'I do', Alice hastily replied; 'at least – at least I mean what I say – that's the same thing you know'.

Lewis Carroll, *Alice in Wonderland*

There are tools of the hand and tools of the mind. Talk is our most important tool of communication. It serves many purposes, but is essentially about the exchange of meanings – our inner meanings and our thinking. Through discussion children become involved in different ways of thinking. In her book *Intellectual Growth in Young Children*¹ Susan Isaacs tells of some children who were discussing the beginning of the world. Eventually they decided that the earth was once part of the sun. Then arose the question 'But where do the sun come from?' Silence. Tommy, aged five, who had said nothing until then, suddenly spoke: 'I know where the sun comes from'. The children turned to Tommy, 'Tell us!' they begged. Tommy smiled – 'Shan't tell you'. Talk serves many purposes, and to get the best out of it children need help. Interaction through dialogue and discussion with adults, will help children to express their meanings more fully, extend their thinking and overcome their 'Can't tell you' and 'Shan't tell you'.

Talking begins with listening. A teacher who wishes to get to know a child and find out how that child is learning needs to listen.

and observe. As Stephen Rowland found, 'a few such insights into their learning were worth more than a battery of objective measures of their performance.'²

In listening to children Joan Tough has identified seven characteristics of children's use of language.³

- 1 *Self-maintaining* – referring to the needs and wants of the self or group, the use of language as a competitive and critical instrument
- 2 *Directing* – to guide and control our own and others' actions, to instruct, demonstrate or demand
- 3 *Reporting* – commenting on past or present experiences
- 4 *Reasoning* – explaining events and actions, recognising problems and justifying solutions, not just using words as labels
- 5 *Predicting* – using past experience to anticipate and predict the future
- 6 *Projecting* – imagining ourselves in other situations, with other experiences; or empathising with the feelings and reactions of others
- 7 *Imagining* – inventing stories or imaginary situations.

These uses of language may overlap, and all may be called into play during the problem-solving process. Through listening to the way children use language we can gain an insight into their learning processes, and so be in the best position to help them.

Education depends on children's ability to use language in particular ways – and children without this ability may not succeed in school or life situations. The Bullock Report of 1975⁴ recognised the essential role of the teacher in this process when it emphasised that demands should be made on children's language 'by the nature of the problem, and the process of arriving at a solution to it'. Therefore the teacher must 'structure the learning so that the child becomes positively aware of the need for a complicated utterance, and is impelled to make it'. One means of doing this is through dialogue.

Dialogue

Learning to use language effectively and learning how to solve problems successfully depend on interaction (dialogue) with others – and 'learning *by doing*' applies equally to both areas. Children are

best helped to learn to think if they are encouraged to talk and express their thinking. Dialogue encourages children to listen closely, to reflect, to consider alternatives, and to engage in a variety of kinds of mental activity. Successful dialogue is that which extends a child's thinking and his/her ability to express ideas through questions and comments.

Achieving the sort of relationship with a child where dialogue will flourish is not always easy. A dialogue is a relationship, and successful dialogue is a two-way process involving respect for views from both the teacher and the child are offering. Much depends not only on what is said, but also on the manner of saying it: tone of voice, stress on words, facial expression and gesture. It is important that the child's form of talk is not rejected, what matters is the *meaning* not the manner of speech. The following strategies have been found helpful in getting children to express and extend their thinking.

- 1 *Opening strategies* – open initiatives for a child to think in a particular way about a topic, inviting a report, eg 'What is happening here?' 'Tell me about . . . ' 'What is the problem . . . ?' or calling for a reasoned explanation eg 'Why do you need to . . . ?' 'Can you explain . . . ?' 'What are the reasons for . . . ?' These kinds of questions offer a wide choice of possible responses within an intended range, and open the way for a range of strategies which encourage the child to put their thinking and communication of meanings further.
- 2 *Sustaining* – asking for a more detailed explanation, justification or reasoned response, by inviting the child to continue talking to follow up and build on ideas. This can be achieved through the use of both verbal and non-verbal cues (facial expressions, smiles, grunts of appreciation, looks of surprise) aimed to prevent fade-out.
- 3 *Focusing* – concentrating on a feature which may be a clue to a more effective and reasoned response. It is important that questions are open, not closed, (ie requiring a pre-determined response).
- 4 *Checking* – not correcting, but asking the child to clarify their thinking. Try to get the child rather than you to clarify it if possible.
- 5 *Informing* – making a summary, adding relevant facts and knowledge to the discussion.
- 6 *Concluding* – drawing the contribution to a close or characterising the topic of discussion without indicating that interest in a child's ideas has been withdrawn.

Class discussion

Dialogue will often take the form of class discussion. There are some important constraints on free discussion in the classroom setting. These include gaining and keeping the pupils' attention, controlling the group, sticking to the point, and ensuring balanced participation. Dialogue with classes of children will need direction and control if interaction is to be effective and productive. Not all dialogue encourages thinking; quite the opposite effect may arise from chattering, giggling, talking at once and talking without listening. Certain constraints and clearly agreed guidelines (eg no-one is to put up their hand while someone is speaking) are needed. Good group discussion is not easy to maintain, even among adults. Effective dialogue, however, will develop a child's problem-solving ability, building up attitudes and ways of thinking that will support a child's learning throughout his education and in later life.

Discussion with children should be aimed at:

- 1 *Finding out what they think*, their expectations and assumptions. Many of the hypotheses used by children are unconscious or inarticulated. The sorts of question they need to be asked are 'What would happen if . . . ?' 'What might explain it . . . ?' 'Which explanation is best?' 'How can I test this?' 'Will this explanation fit all cases?'
- 2 *Helping them to express their ideas clearly*, by seeking consistency in what they are saying, requesting definitions, revealing assumptions, helping them to develop reasons and examining alternatives.

Children need help if they are to become thinking adults. They need help in asking questions – not merely *what* happened but *why* – and in listening to others. They need to reflect on their own needs – the problems *they* wish to discuss – and the needs of others. They need to learn how to share in decision-making, including decisions about the rules of discussion. They need to learn how to contribute to the well-being of the community – the school community and the wider community – through working towards agreed ends.

In the problem-solving process the whole class may cooperate to define the challenge, develop a coordinated plan of action, review progress and take overall decisions. The class may then divide into small groups to investigate different aspects of the problem, or to achieve their task, then to report back and share their findings with other groups.

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Children can get used to planning and making decisions together, and entrusting particular tasks to smaller groups, but it will remain the task of the teacher to provide overall structure and control with teaching strategies that will foster independent reasoning, and to make available the resources necessary (facts, techniques, materials) for successful problem solving.

Group discussion

Whenever learning takes place some form of interaction or communication is needed. Thinking requires some kind of internal speaking (sometimes thinking aloud). The advantage of group discussion is that there is, or should be, more interaction and communication going on than in class discussion. Children will need to talk to each other, explain to each other, to listen and to work with each other. No longer will it be a quiet classroom. If the classroom is quiet during group activity it probably means that not much work is going on!

Group discussion is a rule-governed activity, not a free-for-all. The major rules will need to be discussed, practised and understood.

Points for discussion might include:

- 1 how the group is to be formed;
- 2 whether to have a chairperson and/or reporter;
- 3 how to provide opportunities for all members to contribute;
- 4 how and when the teacher can be asked for help;
- 5 how the group is to present its conclusions.

If group discussion is a new departure from the normal routine of the classroom it is likely there will be some restlessness and bustle in the early stages. Teachers concerned about the initial impact of using small group discussion may prefer to ask only one group at a time to work together, while the rest of the class works as usual. A useful rule is that matters under discussion can only be heard by members of that group!

Groups may be of any size from two to eight or more. In practice three is generally not a good number, as someone inevitably gets left out of the interaction. Four is a more successful grouping number. As Figure 3.1 illustrates, the lines of communication between four can provide for optimum interaction.

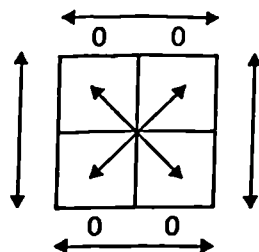


Figure 3.1

The teacher will need to decide whether the groups are to be chosen at random, by childrens' choice or by other factors. Group discussion can be important for social interaction, and children should have experience of working in a variety of groups, not just with their chosen friends. There will usually be some shy, introverted children reluctant to speak in any group situation. One way to overcome this is for them to work with equally shy children. Another way is to rotate the job of chairperson and make it that person's task to ensure that every member of the group has a say. Groups should function as open, supportive units in which each member feels safe to contribute.

Investigation

Children need to be given opportunities to extend their thinking through discussion and investigation. But where does investigation begin? The immediate environment can often provide stimulating starting points. The following is part of a taped discussion between a teacher and a group of five-year-old children who can hear the sound of a machine coming from a nearby street:

- Teacher *What's that noise you can hear?*
 James *A digger in ground.*
 Teacher *A what James?*
 James *A screw going under the ground.*
 Teacher *What do they do that for James?*
 James *Mending the pavements.*
 Teacher *Right. What do you think Rebecca?*
 Rebecca *Um, bulldozer?*
 Teacher *A bulldozer. Listen, makes a lot of noise doesn't it –*
 Darren *I think I know what it is –*

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- Rebecca *Something with a yellow pipe and it goes in the ground.*
James *Goes in the ground and shakes.*
Rebecca *And it digs up the ground.*
Teacher *Ah, why do you think they want to dig up the ground?*
Hugh *'Cos maybe the pavements were smooth . . .⁵*

This sort of discussion, arising from an experience in the real world will often stimulate a wealth of ideas and speculation. However there is no need to have a special stimulus to start investigating. All situations where children and teachers are together will present opportunities for investigation through dialogue, exploring what children think and why. Even the most ordinary and mundane objects and activities can hold their own fascination. As Wittgenstein said, the true mystery of the world lies in the visible, not the invisible. If the everyday objects that surround you seem rather uninteresting, bring in *mystery objects*, and encourage the children to bring some of their own. These might include historical items, objets d'art and objets trouvés, parts of machinery, any object 'washed up from the shipwreck of time' which children can discuss and investigate. What is it? How was it made? What could it be used for? All – almost all – ideas welcome!

People and their opinions are also well worth investigating. One way to introduce this sort of discussion with older children is to hold a 'Speakeasy'. Place a chair at one end of the room. This is the Speakeasy chair. Announce a subject for discussion – for example, 'If I had £100.' Volunteers come in turn to the Speakeasy chair and begin 'If I had £100 I would . . .'. This is an orderly way of giving everyone a chance to have their say, and to practice good listening habits.

Here are some suggested subjects for discussion, drawing on a child's own experience of life. Children may think of many more.

- *Who am I?* Describe a friend/teacher/person you all know/someone famous.
- *My hobbies* Talk about an out-of-school activity, collection, sport or club.
- *My family* Describe the whole family, or one member – good and bad points.
- *If I ruled the world* What laws would you pass? How would you prevent war, hunger etc?
- *If I had one wish/three wishes* What would you ask your fairy godmother for, and why?

- *My gifts* What are the best presents you have given/received? What would you like to give to special people and why?
- *My happiest /saddest/funniest/most memorable/magic moment.*
- *When I grow up* What would you like to do and why?
- *The most beautiful/ugly things in life.*
- *About me* What makes me mad/glad/sad/laugh . . . what I like/don't like about me.
- *Where I'd like to live* If you could move to another place, where would you like to be?
- *If I wasn't born human* What animal would you like to be and why?
- *If I wasn't born me* Who would you like to be, and why?
- *My dream holiday* Where would you go? What would you do?
- *If my house was on fire* What would you do? What would you try to save?
- *My favourite book, film, TV programme.*
- *If I were marooned on a desert island* What persons/things would you most like to be with and why?
- *Accident!* Describe a real or imaginary accident and its consequences.
- *The school I would like* What would you change in your school and why?
- *A day in my diary* Describe a real or imaginary day – its pleasures and problems.

The Speakeasy is a way of introducing discussion in depth about broader subjects in which children have a natural interest – exploring such concepts as friendship, truth, the environment, war and peace, the good and the bad . . . It can be used to encourage children to reflect on their own life situations and relate them to broader social issues, such as *education* (Why go to school? Who should run schools? Should schools be compulsory? . . .) and *rules* (stealing, lying, crime and punishment – what should be done?) (See also 'Moral problems' on page 186 of this book.)

A variation is to have an *Any Questions* panel (as in the BBC Radio programme) of about four people, to whom the class puts questions of topical interest. Children can extend their range of investigation by using a tape recorder or video camera – recording on-the-spot reports, opinions and impressions from a variety of locations for future reference. Visitors can provide a stimulating focus of inquiry. With preparation, children can also role-play interviews between

'visitors' related to a current topic and members of the class. Canvassing opinion, opinion polls and surveys are other ways of investigating what people think and feel. Finding out about other people, their personalities and problems, can help us to understand ourselves better. It can lead to a growth in empathy, whether the investigation is of real people, or of characters in literature.

Stories for thinking

A teacher was reading *Winnie the Pooh* to a group of children and reached the part where Piglet's grandfather is said to have two names 'in case he lost one'. The teacher paused, and enquired 'Can you lose a name?' There was a pause for thought and the shaking of heads. Suddenly a hand went up, 'You could if you forgot it'.

A good story is a kind of investigation, an adventure in thinking and imagination. Stories invite us to consider situations different from our everyday experience, they are thought experiments about different worlds. We respond to stories, good stories, because of their emotional significance *and* their intellectual adventure. All stories need thinking about, need to be recreated in our own imaginations. The response we have to stories tells us as much about ourselves as it does about the story; it offers us clues about our own lives.

In *The Uses of Enchantment* Bruno Bettelheim⁶ argues that the purpose of literature, like the purpose of education, is to provide meaning in our lives. Finding this meaning, he says, is the greatest need for human beings in any age – and the most difficult to realise. We all face the questions 'Who am I?', 'Why am I here?', 'What can I be?' In attempting to answer these questions we most often seek help from parents/teachers and from literature.

The essence of a good story lies in some form of conflict, problem or series of problems. Each story is the start of an unknown journey, and reflects in part the journey of life that we are all on. 'Once upon a time' could be any time and the story could be ours. If it is a good story we had better listen carefully for there will be much to work out on the way, and perhaps we can help in reaching a happy ending.

The teacher is there as a guide to help children stop and reflect and perhaps talk about what the story means to them. A good story contains not only many different objects but also many different

relationships between objects, characters and events. Thus it will present a more complex challenge to a child than objects in the immediate environment. For a young child to grasp and digest a story requires a great amount of attention and a major effort of understanding. Not only is the child engaged in assimilating its complex fabric, he or she is also confronted with the equally puzzling problem of separating reality, representations of reality, possibility and fantasy.

A good story or novel is at first a strange country which the child gradually explores and in which new discoveries are always possible. This is why children tend to go back to good books and want the story repeated, and why it is important to allow time to reflect and respond to a story. Every renewed encounter may reveal new aspects and lead to deeper understanding. It is comparable to the relationship between an adult and a work of art, piece of music or poem. The possibility of this kind of meaningful encounter is very different from the story-reading or listening that just has the purpose of killing time or of being passively entertaining. A real encounter with a work of art involves an active response, and possibly several contacts, as does a child's attempt gradually to assimilate a story.

One group of stories that young children in general never tire of hearing are fairy stories.⁷ According to Bruno Bettelheim the message of the fairy tale is this: if you have courage and persist you can overcome any obstacle, conquer any foe and achieve your heart's desire. Fairy tales reflect a child's daily fears (the world is an unpredictable and dangerous place). The story addresses itself to the child's sense of courage and adventure and offers the hope that problems can be met and successfully resolved. The true fairy tale has a hero, a problem solver who, in the end, succeeds in getting the desired results – the happy ending.

Fairy tales tend to have turning points when crucial decisions are made, and often what seems to be the wrong decision turns out right in the end. In *The Sleeping Beauty* one of these turning points concerns the decision of the parents – should they tell their daughter about the danger of spinning wheels in the hope that she will avoid them, or should they not tell her and simply destroy every spinning wheel they can find? This is the sort of question that can fruitfully be discussed at all ages, and one that can be applied to many of life's dangers. In *Jack and the Beanstalk* – would you have swapped a cow for a handful of magic beans, or climbed a beanstalk into the sky? In *Hansel and Gretel* – how would you have found your way

out of an unknown wood, and would you go into a stranger's house even if it were made of sweets? There is a wealth of material in traditional tales to stimulate discussion and problem solving. Could you, like the *Three Little Pigs*, build houses out of straw, wood and brick and how would they stand up to the wolf's fierce breath? How would you have raised the *Enormous Turnip* from the ground? How would you have rescued *Rapunzel* from the Tower?

Many modern writers and illustrators have extended and developed the challenge and adventure to be found in traditional tales. Good illustrations can be of great value in stimulating the search for meaning and the discussion of possibilities – though they are less easy to use in a group or class setting. Pictures that are well integrated with the text provide opportunities for reflection ('What is happening?') and can encourage prediction ('What will happen next?'). The best books, including picture books, have something to offer all ages. For example Professor Gareth Matthews uses fables written by Arnold Lobel as a basis for discussion with his philosophy students.⁸ He regards Lobel's '*Frog and Toad Together*' as a philosophical classic.

Each of the stories presents a problem of philosophy. In the first story 'A List', Toad writes a list of *all* the things he will do that day. The problem arises when the wind blows the list away. He complains that he cannot run after the list since running after the list was not on the list.

In the next story, 'The Garden', Toad plants some seeds, becomes impatient about their growth and shouts at them to grow. Frog warns Toad that he is frightening the seeds. Toad tries other strategies – burning candles, singing songs, reading poetry, playing music. When these produce no visible results Toad laments, 'These must be the most frightened seeds in the whole world'. Trying to work out the relationship between cause and effect can be as hard as growing seeds, but as this story shows it can also be fun.

In 'Cookies' Frog and Toad are eating cookies that Toad has baked. Each agrees to eat one last cookie. They do. Then they eat one very last cookie. Frog says what they need is will power. Toad asks 'What is will power?' Frog answers, 'Will power is trying hard not to do something that you really want to do' and sets out to show Toad how it works. But can you really try hard not to do what you really want to do?⁹

The story 'Dragons and Giants' explores the idea of bravery. How can I tell whether I am brave? Must I do something dangerous? But supposing I am scared the whole time, or don't realise how

dangerous it really is, or think it is dangerous when it really isn't? The last story, 'The Dream' suggests the familiar problem – How do I know when I am not living in a dream world? Frog asks Toad after a dream, 'is that really you?'

Discussion of stories, especially with young children, will depend largely on the teacher inviting a comment or asking the appropriate question. Older children are able to hold group discussions for themselves. In the extract below a teacher had set up an experiment with a class of seven-year-olds.¹⁰

They had been reading '*The Shrinking of Treehorn*', a book by Florence Parry Heide, about the problems of a boy called Treehorn who shrinks; eventually he returns to his normal size, but then he starts to turn green while watching TV. The children were split up into groups of four, with a tape-recorder, and given the simple instruction – 'Ask each other questions about the book'. On transcribing the subsequent discussion the teacher, Martin Coles, was startled by the complexity of the interaction revealed.

Time and again the power of a child's imagination was evident. Often the discussion just became an explosion of ideas, as in this passage where the group is discussing why Treehorn started to go green:

Lyn: *The room was green.*

Jonathan: *Mirror was green.*

Sophie: *Something reflecting on him.*

Jonathan: *What about the elephant on the television.*

Brett: *The light, the light. The light might be reflecting on the mirror and the mirror on him.*

Lyn: *He may of ate something that made him turn green.*

Sophie: *Something poisonous.*

Johnathan: *He ha ha. He might of drunk some green washing up liquid.*

Sophie: *He might have had a green counter.*

Brett: *I've got an idea. Listen Listen. When he was small he wasn't green. Right? But when he played that game he probably stretched and that made him go green.*

Jonathan: *He isn't Incredible Hulk you know.*

Sophie: *I think he went green because the counter was green.*

Lyn: *The lightening made him turn green.*

Jonathan: *Yeh, the sun probably shining down on that and reflect ing up into his face.*

This discussion went on for four minutes and eventually collapsed into giggling when a suggestion about green under-pants was made . . .

The Treehorn tapes convinced me that young children are capable of the whole range of human thinking if the context is right. They can produce imaginative ideas, attempt to solve problems, explore implications, explain, predict, interpret, express feelings, reason logically, justify an opinion, and unself-consciously find it all fun, if only they are given proper opportunities.

At the end of this section (on page 55) is a selection of the vast range of books that can help stimulate thinking and discussion with children, with a general guide as to age level. These books can be read aloud to children for pure enjoyment, whether or not they result in discussion. There will probably be other books you would add to this short list. Whatever the story, class discussion will permit the thoughts, emotions and discoveries aroused by the books to be shared. Some children may prefer to do this through written or artistic expression. Whatever the medium, the aim is to enrich the child's experience both of the book and of life.

Another approach is to create a story yourself as a stimulus for discussion and investigation – or to develop ideas presented by the children. A third-year junior class were studying 'water' as a topic, and had got onto the study of tropical islands.¹¹ They discussed various Caribbean islands which some of the children had visited. They were told the story of St Brendan's voyage of discovery (one island he landed on turned out to be a whale) and learnt of Thor Heyerdal's expeditions from television programmes. They then created their own story about being on a tropical island on which only bananas grew. The island was slowly sinking, so they would have to escape (with sufficient bananas to sustain life). Modes of leaving were discussed. Helicopter rescue and Giant Albatross lift were ruled out. They eventually agreed to construct something that would enable them to leave by sea. A Fairy Godmother named Flotsam was called in to provide a selection of materials for use in making an escape machine, and so the investigation continued . . .

The following case studies indicate how stories can be used to prompt enquiry-based and problem-solving approaches in the primary school. In *King Kong and the Pirates* the teacher, Hilary Tunbridge, created a story as a stimulus for scientific investigation with her class of top infants. With *How to get Piglet off an island*, Valerie Irving used characters from *Winnie the Pooh* in a problem-solving exercise with her infant class.

Story books for problem solving

The Great Flood by Peter Spier (World's Work) a wordless picture book illustrating some of the problems Noah had to face on the Ark (3–11)

Alfie Gets in First by Shirley Hughes (Bodley Head; Picture Lions) Alfie returns home from shopping first and manages to lock himself inside the house. What would you have done as Alfie, or as Mum left outside? (3–6)

Winnie the Pooh by A A Milne (Methuen) Problems for a bear with very little brain. Can you help Pooh devise a Cunning Trap for a Heffalump? (4–7)

Cloudy with a Chance of Meatballs by Judi Barnett (Gollancz) A fantasy in which the weather changes three times a day, supplying food from the sky. Suddenly the weather takes a turn for the worse, bringing big problems. (5–8)

Don't Forget the Bacon by Pat Hutchins (Bodley Head/Puffin) How do you remember all the things you went to the shop to buy? (4–7) Also *The Surprise Party*, same author, in which an important message becomes confused when whispered from one animal to another – something to try out in class!

Fables by Arnold Lobel (Cape) Comic and thoughtful commentaries on the human condition by the author of the *Frog and Toad* books, *Mouse Tales* and *Owl at Home* (4–7)

Little Tim series by Edward Ardizzone (OUP/Picture Puffin) Rescues by children in a variety of situations against great odds. (5–9)

Clever Gretchen and Other Forgotten Folk Tales by Alison Lurie (Heinemann) Fifteen feminist folk tales with active heroines outwitting, overcoming and rescuing others from all kinds of evil (8–11)

The Tenth Good Thing About Barney by Judith Viorst (Collins) How a child and his parents cope with the death of the child's cat, called Barney (4–7)

The Big Red Barn by Eve Bunting (Harcourt Brace Jovanovich) How a farm boy comes to terms with his mother's death, and how families, like barns, can be rebuilt (6–9)

A Taste of Blackberries by Doris B. Smith (Heinemann) shows how a child comes to terms with the death of his best friend.

Tuck Everlasting by Natalie Babbitt (Chatto & Windus/Fontana Lion) What would it be like to live forever? A family has found the fountain of youth but problems follow (9–12)

56 *Problem Solving in Primary Schools*

The Battle of Bubble and Squeak by Phillipa Pearce (Andre Deutsch/Puffin) What do you do when your mother is determined to get rid of the pet gerbils that you love? (7–10)

Flat Stanley by Jeff Brown (Methuen/Magnet) Poor Stanley Lambchop is flattened to a thickness of half an inch – what problems and advantages might this entail? (7–10)

Littlenose by John Grant (BBC/Knight) A small Neanderthal boy accidentally discovers many useful principles (6–9)

The Owl who was Afraid of the Dark by Jill Tomlinson (Methuen/Puffin) How do you overcome your fear of the dark? (5–7)

The Real Thief by William Steig (Hamish Hamilton) An animal story of theft and friendship, and the problem of owning up to your mistakes (8–11)

The Shrinking of Treehorn by Florence Parry Heide (Kestrel/Puffin) A young boy begins to shrink. Ignored by parents and teachers he must solve the problem himself (7–10)

The Children of Green Knowe by Lucy Boston (Faber/Puffin) A meeting in an old house with children who had died in the Plague of 1665. Problems of time and place. First of a series (9–12)

Conrad by Christine Nostlinger (Anderson Press/Beaver) The problems of a factory-made boy who has to be re-programmed (8–11)

The Eighteenth Emergency by Betsy Byars (Bodley Head/Puffin) What do you do when you have angered the school bully? (10–12) Other books by Betsy Byars include *The Midnight Fox* and *The Pinballs*.

The Turbulent Term of Tyke Tiler by Gene Kemp (Faber/Puffin) Schoolmate Danny's problems challenge the resourceful Tyke (10–12)

Tales of a Forth Grade Nothing by Judy Blume (Bodley Head/Piccolo) Family problems with brothers can be fun (9–11)

Notes and references

- 1 *Intellectual growth in young children* Susan Isaacs (Routledge and Kegan Paul, 1930)
- 2 *The Enquiring Classroom* Stephen Rowland (Falmer Press, 1985)
- 3 *Talk for teaching and learning* Joan Tough (Ward Lock, 1976)
- 4 *A Language for Life* (The Bullock Report) (HMSO, 1975)
- 5 *Children Talking* Andrew Folker and Martin Coles (Cherwell 'Learning about learning' booklet) Available c/o Pat D'Arcy, County Hall, Trowbridge, Wilts
- 6 *The Uses of Enchantment: the meaning and importance of fairy tales* Bruno Bettelheim (Thames and Hudson, 1976)
- 7 For a fresh slant on the traditional fairy tale see *Don't Bet on the Prince*, a collection of contemporary feminist fairy tales, ed. Jack Zipes (Gower, 1986)
- 8 See 'Thinking in stories' Gareth Matthews, in *Thinking, the Journal of Philosophy for Children* Vol 6, No 2 and Vol 1, No 1
- 9 St Paul struggles with a similar problem in *Romans 7:20*
- 10 For a full account see 'Hearing a pin drop' in *Children Talking op cit*
- 11 See 'Approaching primary science through a problem' by Sue Dale Tunnicliffe in *School Science Review*, June 1985

Further reading

Matthews, G.B. *Dialogues with Children* (Harvard 1984)

THEME 2 Part 2

Fisher R. (1993) '*Philosophy for who?*',
SAPERRE Journal, Vol. 1, No. 3, May 1993, pp. 17-20

This paper appeared in a professional journal as an introduction to the theory of philosophy for children. An extended version was published as an occasional paper by the Centre for Thinking Skills at the West London Institute (later Brunel University), and was included in of a number of the author's conference presentations on philosophy for children (Appendix 2).

Philosophy for who...?

When the philosopher G.E. Moore was asked what philosophy was he, he pondered and pointed to his rows of books saying: 'Its what all these are about.' Philosophy is what philosophers do, and we know they do it because they write books about it, and they lecture in it. But what is philosophy?

When I posed this question to a group of children recently I got the intelligent answer: 'Look it up.' So we did, and found a definition - 'love of wisdom' . But what is wisdom? Those who have tried to define wisdom seem to identify two aspects, one involves the process of enquiry after truth, and the other a disposition or desire to know. Aristotle opens his *Metaphysics* with: 'All people by nature desire to know.' For Aristotle wisdom seems to mean a seeking after truth, by people, in a human context.

If wisdom is partly to do with trying to understand more about what it is like to be human, then it a search that is relevant to all of us . Wisdom can be said to be the humanisation of truth, truth in its relation to human concerns. But what are these human concerns? For each of us they may be different. Plato wrote in *The Republic* 'our discussion is no trifling matter but on the right way to conduct our lives.' Philosophy is a kind of thinking game, but a game to some purpose - and it is up to us to define that purpose.

Two views about the purpose of philosophy can be broadly identified as the Socratic and the Platonic approach. The Socratic view argues that the essence of philosophy, or the search for truth, is to be found in in dialogue. This is a democratic process that all who are capable of thinking can indulge in. It involves a spirit of enquiry, characterised by a questioning approach. The power of philosophy according to this view lies in the human capacity to make meanings, and to construct understanding from the raw materials of what we know and think, through dialogue with others. For Socrates we know more than we think we know. It is through philosophy that we can make this knowledge, these thoughtful products of our creative mind explicit. As someone once said, 'I didnt know what I thought until I heard what I said.' Or as a child put it, ' I didn't know I thought that until I said it!'

Another view can be characterised as Platonic. On this view the essence of philosophy lies in the Logos, the text, the given word. Philosophy is what G.E. Moore

pointed to. It lies in schools of thought. It is an inherited tradition. It is the knowledge of the few, and through the critical study of the word (or in the case of some philosophers many millions of words) one comes to know. Plato believed that philosophy (dialectic) should only be introduced after many years of training and study, and only to those who have reached the age of thirty (*Republic* Book 7, 537d). Modern philosophers such as Mary Warnock have echoed this view arguing that philosophy should only be introduced after pupils have left school and have a thorough grounding in the knowledge and skills of traditional subjects.

There is of course justification for both views. If part of being human and having a mind is to find out the truth of things then we are *never too young to begin this* process. If we can introduce children from an early age to the process of philosophical enquiry then we should do it. But philosophy is more than this, it is also a tradition that has exercised the brightest and best brains down the centuries. There are standard texts, and a historical development of ideas that can illuminate, can take us beyond our everyday thinking and that can be head-bangingly difficult to understand. G.E. Moore can keep his books, they are philosophy, but they are not the only kinds of philosophy.

One of the problems of philosophy is that it never comes to ~~any~~ answers. After 2000 years of arguing about the relationship between the mind and the body, the nature of human identity, justice, truth, beauty etc are we any nearer to an 'answer' to these questions? This is part of the power and fascination of philosophy. It begins with wonder and our natural curiosity about the ways and workings of the world. We need philosophy because we are not given answers, or at least the answers are not obvious, and there are many kinds of answer, and we are given answers that may be wrong, and what is our defence against these unless we learn to think for ourselves? Philosophy is then a critical process. Part of the purpose of philosophy lies in what Wittgenstein called the battle against the 'bewitchment of our intelligence' by means of words. But is philosophy no more than just a tool of linguistic analysis useful in servicing our ideas and clarifying our use of words?

Philosophy, said Wittgenstein, 'leaves everything as it is'. But should it? Or should it help us to explain the world, and help us to change the world? The view that philosophy offers no explanations fundamentally underestimates the importance of theory. Theories, in the sense of justified beliefs, are what people live by - not by the definitions of words or isolated concepts. We need more than to have some protection against those who seek to manipulate our thinking in the marketplace of persuasion. We need to have truths to live by, in the sense of having some guiding principles,

some justified true beliefs to inform and give meaning to our actions. The search for truth is the rational and ethical basis for all education. What are the rules by which we should live? What is true? What is fair? What is just? Why should we tell the truth? Am I my brother's keeper? These are questions that are as relevant to the child in the playground as to the adult voter and lawmaker.

Philosophy not only involves theory, it is also practice. It is what philosophers and all who use reason in seeking truth do. It has practical value. It is thinking and doing. It is a process that calls upon and exercises general and specific thinking skills. You do it if you know how to and if you think it has value. So what are the skills developed by the practice of philosophy?

Firstly there are reasoning skills - the search for truth, through the articulation of ideas, and the exposure of ideas to scrutiny, logic and argument. The key questions here are 'Is it true?' 'How do we know?' Secondly there are enquiry skills - how we find out through observing, questioning and describing - 'What does it mean?', 'How do we find out?' Thirdly there are concept-formation skills, defining, classifying, linking parts into wholes for example through mind-mapping, concept mapping, identifying, making connections ... 'What do we know?' 'What don't we know?' 'What kind of problem is it?' Fourthly there are translation or communication skills, articulating our thoughts, making meaning, solving problems, making decisions. 'How do we explain it?' 'What are our conclusions?' Skills in themselves are not of course sufficient, we need to develop the attitudes, the critical dispositions to use the skills we have - the wonder, the need to find out, the willingness to challenge: 'Do I agree?' 'What do I think, for myself?' And the self-esteem that comes from being one of the community of critical thinkers, of the benefit we get from talking with and listening to others - "Do others agree?" "What do others think?"

For Piaget one of the great barriers to philosophical thinking by children is that they are by nature egocentric. (It is of course a problem we all share). They are impulsive, they tend not to stop and think. They live unexamined lives. But they can be brought into what Frank Smith has called 'the club of critical thinkers', as individuals and in groups. In a sense every class or learning group is a community of enquiry - a family can be so, so can a university research team, or friends in conversation. What makes a community stronger than any individual is the combination and variety of its ideas, arguments and actions. The notion of a community of enquiry owes a lot to the American philosopher Matthew Lipman, whose Philosophy for Children programme - for 5 to 16+ years is in use in more than 20 countries. For him philosophy, the process of enquiry through reasoning and argument, is the means through which thinking

skills develop, and his philosophical novels written for children and teachers can act as a catalyst for philosophical dialogue and the development of critical and creative thinking skills. But there is not just one way up the mountain. We are stimulated to think not only by words. Other approaches to philosophy with both young and old use picture books, video, and the consideration of real-life problems as starting points for thinking and discussion.

'Culture', said Whitehead, 'is activity of thought and receptiveness to beauty and humane feeling.' One of the best ways of achieving activity of thought is through engaging in the process of philosophy, at any age. If intelligence is a 'global capacity ... to act purposefully, to think rationally and to deal effectively with the environment' (Wechsler, 1958) then philosophy will help to develop that all-round intelligence. If intelligence is a multi-faceted range of capacities, what Piaget called 'a system of living and acting operations' then the thinking skills developed by philosophy will help to develop a flexible approach to learning utilising many different aspects of intelligence.

Ever since the time of Socrates (as recorded in the dialogues of Plato) it has been recognised that philosophy, in the form of critical and creative thinking, can be a powerful tool for learning. We now have practical programmes and approaches that can bring the process of philosophy alive for students of all ages and abilities. We do not yet know how effective some of these programmes are in the long run in helping students to fulfill their potential, but the indications we have from research and from experience in the classroom is encouraging. Children have a right to be educated in a spirit of optimism, and with philosophy it is an informed optimism, based on case studies from many countries in the world.

So to the question 'Philosophy for who..?' I would answer 'Philosophy for all' - or as one child put it to me ' I don't know what it is this philosophy, but it gets you thinking.'

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THEME 2 Part 3

Fisher R. (1993) *Cooperative learning*.

Curriculum, Vol. 14, No. 1, Spring 1993, pp. 23-35

This paper investigating the theory and practice of cooperative learning written for a refereed journal was later expanded to form a chapter in Teaching Children to Learn (p89-106)

Cooperative Learning

Robert Fisher

In this paper the author reviews research into cooperative learning, and suggests ways in which cooperative learning can be introduced into classrooms with the aim of developing thinking and learning skills.

'What a child can do in co-operation today, he will be able to do alone tomorrow'
Vygotsky (1962)

Every child is different. Even asking a simple question like 'What are clouds made of?' will elicit a range of responses from a group of children. Each child has their own store of knowledge, ideas and experiences which she/he uses to make sense of the world. Each child has unique abilities and a learning style all their own. Should the child then be best viewed as an individual learner, as an 'active scientist' exploring the world, reflecting on experience and developing increasingly complex structures of individual thought? Should all learning be individualised learning?

In the 1960s there was a big movement towards individualised learning. It was called programmed learning and had a simple rationale: Every child is individual and each has different needs, so each needs an individual programme to work through. Machines were devised and boxes of workcards and workbooks produced to allow each child to interact with the programme in his or her own way. Some good programmes were written, and they produced efficient learning outcomes. But with continued use their effect waned when not mediated by a human teacher. Many of the materials simply invited 'busyness', for example completing blanks in a given sentence. The work was often repetitive and superficial, little learning took place, and no development in thinking. The decisive influence on the success of such programmes was not the machine or the materials, but the mediating influence of another human being.

Learning can be an unassisted activity. A

child given a load of bricks, a student presented with a problem, an adult given a recipe or set of instructions, can respond to and relish an individual learning situation. But most learning takes place in a social context. As Bruner says: 'Making sense is a social process' (Bruner 1987). For Vygotsky social interaction has a central role in a child's education (Vygotsky 1962, 1978). It is through being with 'knowledgeable others' that a child's potential for learning is revealed. These knowledgeable others can be anybody — parents, siblings, friends, peers, teachers or other adults. Parents are usually the primary caretakers, but anyone can act as a caretaker of a child's learning. As a child once said to me: 'I like working with others, they help you to see what you think.'

The foundation of learning and development is co-operatively achieved success. With others we can do more and achieve more than we can do on our own. The reason why human beings have, thus far, been the most successful of the animal species is that we are able to combine the flexibility and experimental brilliance of individuals, with the generative power of co-operative effort. In teaching children to learn we need to give them access to the generative power of those around them.

The basis of this achievement-of-success-through-others is language and communication. It is through effective communication — 'learning by talking' — that great institutions, social organisations and small task groups achieve success. We need to look therefore at two closely linked areas:

- cooperative learning — learning to learn through and with others, in pairs, in small and in large groups;

- talking for learning — organising experience into thought through inner speech and with others.

The best conditions for learning exist when children have a challenge that extends their cognitive range. We help most when we encourage the child's reach to exceed its grasp. Too great a challenge risks ending in failure and frustration. Too little challenge and a child's potential will never be realised. For Vygotsky this potential — what he calls the Zone of Proximal Development — exists not just in the child's mind. It lies as much in the 'social plane', in the skills, ideas and experiences of the social context in which she and her peers inhabit, as in the 'psychological plane' or internal functions of the mind. On this view the role of the teacher is to provide the social and cognitive framework for learning, so that attention is drawn to the cognitive challenge of the task, and support available to meet that challenge.

The communicative framework for learning

Success in learning depends on creating a communicative framework for a shared understanding of the situation, and what is to be achieved. Elements of a shared understanding can be summed up in two questions:

- *where are you?* — what is the present situation, task or problem? what do you know and what do you need to know? who and what is involved? why is it as it is?
- *where do you wish to be?* — where do you wish to get to? what do you want to do? what obstacles are in the way? how will you get there? who or what will help? which are the ways to go? how will you know when you are there?

Children need cognitive climbing frames to, in Bruner's term, 'scaffold' their thinking, supporting where they are, and helping them to higher levels of explanation and activity. The communicative framework should help children to:

1. *communicate what is known*, and then move on to —

2. *develop new understandings* through thinking aloud, grappling with ideas and clarifying thoughts, and then —
3. *reflect on what has been achieved* through thinking about what they have learnt and exchanging ideas with other students and adults.

Good teaching will help children focus not only on the *content* of what they are doing, but also on the *processes* and *outcomes* of their activity. Teaching is less successful, as successive HMI reports indicate, when teachers are unclear about what they want children to learn, when tasks are not matched to children's ability, and when learning outcomes are not assessed. Simply giving children tasks, even if the content is relevant, is not enough. To help children in learning how to learn we must try to communicate these key elements:

Think what you intend to do and discuss what you hope to achieve.

Think why you are doing it and express in your own words the purpose of the activity.

Think how you are doing it and what can help you to achieve success.

Think what you have done and reflect on the outcome (the product and the process).

Think what you do next and how to use what you have learnt.

The Plowden Report (1967) spoke of the 'twin pitfalls of demanding too much and expecting too little', but often we need to demand a little too much if we are to help children to have high expectations of themselves and to focus on the next stage in their learning, while at the same time valuing what they have achieved. It is one of the 'push me/pull you' dilemmas of teaching to maintain the right balance of high but realistic expectation. One justification of cooperative work is that we are able to expect more from children who are working together than when working on their own. But what form should this cooperation take?

Learning in pairs

'Make your friends your teachers and mingle

the pleasures of conversation with the advantages of instruction'. Gracian (1647)

Wayne was struggling with his reading. A rather quiet and withdrawn eight year old, he was finding it very difficult to progress beyond the most basic of his reading scheme books. He was the least able reader in his class, and his teacher was worried. A new idea had been tried in a local school. It was called *peer tutoring*, which meant that children worked in a structured way with a more able partner. So Wayne was paired with an older fluent reader — and they read together for fifteen minutes a day for a term. 'At first,' said his teacher, 'there didn't seem to be much progress, but by the end of the term Wayne had really taken off. And he put it down, not to me, but to his "reading friend".'

Like many good ideas in education, children helping children is not new. The benefits of peer tutoring were known to the Greeks and Romans. As Comenius observed: 'Qui docet, discit' (Who teaches, learns). There is no better way to learn something well than to teach it, and to teach something is often to learn more about it. It is a process that can benefit:

- the tutor — the helping child;
- the tutee — the child who is helped;
- the teacher — the mediator of the learning.

Goodlad (1979) says that peer tutor is 'humanely rewarding'. What are these rewards? Social benefits arise from creating a cooperative learning environment, in promoting a sense of common purpose and in social bonding. And there can be learning gain, both in terms of progress in subject areas, and also in learning how to learn (metacognitive development).

The helping child (tutor) can benefit from taking on a nurturing role, and although they are teaching material they may have mastered, may gain intellectual benefits in different ways. Putting their skills and knowledge to some purpose will help to consolidate their knowledge, fill in gaps, find new meanings and extend their conceptual frameworks. As one child tutor put it, '*Teaching someone is not easy. You have to remember a lot of what you've forgotten. It helps you understand what*

you went through at that age. Having a teacher is alright but having a friend too is better.'

For the tutee, the child helped by another, the benefits can be considerable. The tutee is given some extra individual attention, with regular and responsive feedback on his or her efforts. The verbal interaction with a friend is of a personal and powerful kind, if it works well. The quality of teaching by a peer tutor does not, however, match that of a trained teacher. Why is this so? Good teaching involves giving help when the learner faces difficulty, but offering less help when the learner shows signs of competence. Child tutors are ready to offer help, but tend not to pull back when the learner shows signs of success. Child tutors give specific concrete suggestions, and are less likely than adults to ensure the learner understands the connections between activities. Children are not so good as adults at 'scaffolding' the learning process for others (Wood 1989). They do not have the metacognitive skills of adults, they know less about the process of learning. But what they do offer is a direct help in learning, and help of a companionable kind. The tutor child does provide a model of learning, and can demonstrate required behaviour — whether it be reading or problem solving in maths, and can model how to learn as well as offer emotional support. As one child in a tutoring scheme remarked: 'It's like having an extra friend in the classroom'.

Fig. 1

Teach them in steps and make sure they understand all they need to know in order to learn what you are teaching.

Teach them in the simplest form and make sure they understand each all that you are telling them.

Ask them if they don't understand anything and if they don't go over the part they don't understand.

Ask a few questions and check that way that they understand all you are telling them.

If they are sure of it, give them a sheet of that work and see how they cope on their own.

How to be a good teacher by Tom, aged 10

What do teachers get out of it? Peer tutoring can free teachers from some of the routine work inherent in monitoring a whole class. To foster an 'apprenticeship' approach to learning teachers will need to support both tutor and tutee, to ensure that a positive social relationship is being developed. As one teacher, after having set up a peer tutoring scheme reported, 'When it works we all benefit'.

Paired reading

'I like reading with someone because it helps me to read by myself later' (Jane, aged 8). There has been much research (Topping 1988, 1992) into the benefits of paired reading. Originally intended for use with non-professional adults to help children with a reading disability, it has been found to have beneficial effects used with non-readers, retarded readers, average and able readers. The recommended approach can be summed up as follows:

1. The tutee selects a book of interest.
2. The tutoring child, or teacher, checks that the book is within the tutee's competence (e.g. by using the 'five finger test'* — see below).
3. Tutor and tutee sit physically close.
4. Tutor and tutee talk about the book, before the tutee reads aloud, or they read the text together.
5. If the reader is stuck on a word, the tutoring child allows a *pause* (so the tutee can think and try guessing from the context or the initial sound of the word). The tutor then *prompts* (by giving a clue, such as the initial sound of the word).

6. *Praise* is a key feature of the method — praise for the child who is helped, and for the helper.

The process is simple. As Goodlad (1979) put it, all you need to decide is 'who is to teach what to whom and for what purpose, how and where, when and how often'. Success in this kind of learning is made up of many small steps. The recipe is — keep it short, simple and sustained. The tutoring child (or adult) needs training, for example in the 'pause, prompt, praise' method, and the process needs to be monitored so that there is a good 'match' and positive feelings between the partners.

* Note: The five finger test is a simple readability check. Open the book at random, spread five fingers across it, if the tutee can read the five words the book is probably appropriate. If there is difficulty in reading more than one then the book is probably too hard. If there is a problem with one word, then try again on another page.

Paired writing

For any writer having a 'response friend' to share the first draft of a piece of writing can be useful in providing an audience for the work, as well as in proofreading for errors and improvements in style. But children need guidance, both on how to be a good writer and how to be a good response friend. Children find it helpful to have this information made explicit. As one nine year old said, 'You can't make it better until you know how'. This know-how needs to be put into words, for it is not self-evident. Here is the advice one teacher has posted in her classroom on being a good writer and on being a good response friend.

Fig. 2	
<p style="text-align: center;"><i>'Being a good writer'</i></p> <ol style="list-style-type: none"> 1. Draft your writing. 2. Read it aloud to yourself. 3. Think . . . Do you want to add or change anything? 4. Read or show your writing to someone. 5. Listen to what they say. 6. Can you make it even better? 	<p style="text-align: center;"><i>'Being a good "response friend"'</i></p> <ol style="list-style-type: none"> 1. Read your friend's work, or listen carefully as your friend reads it. 2. Tell your friend at least two good things you liked about the writing. 3. Think how they might improve their writing <ul style="list-style-type: none"> — is there a good beginning and ending? — is there anything missing? — is there a way of making it better? 4. Can you help your friend make it better?

In learning how to learn children need opportunities to teach, and opportunities to learn from each other. They can benefit from learning to learn in three kinds of partnership:

1. *Equal partners* in terms of age and ability as response partners to share thinking work and problem solving.
2. *Tutor partners* who are more able, such as older students or adults who can act as 'expert' helpers.
3. *Tutee partners* who are less able and can be tutored in specific learning tasks, giving the child experience of being in the 'expert' tutoring mode.

Think-pair-share

One cooperative learning strategy found useful in all kinds of learning situations is summed up in the slogan: 'Think-pair-share'. Often teachers use a 'one response' strategy, meaning that one child responds in the class at a time. Think-pair-share is a multi-response strategy, applicable to all ages and abilities.

The stages of think-pair-share are:

1. Students *listen* while teacher or another poses the question or problem.
2. Students are given time to *think* of a response.
3. Students then pair with a neighbour to *discuss* their response.
4. Finally students *share* their responses with the whole group.

The following are some activities that can encourage paired learning:

- paired drawing — one partner draws a picture, and describes the hidden picture to the other who tries to draw it from the description
- mirror movement — one child creates a sequence of bodily movements for the partner to try to follow at the same time
- shared reading — partners prepare a text e.g. news item, story or poem, for reading aloud between them to others
- cartoons — partners brainstorm ideas, one child draws, the other supplies captions

- instructions — partners work out instructions, rules and strategies for doing something e.g. playing a game or making a model, then show others
- paired stories — partners create a story together to retell to others
- paired assessment — partners report on each other's work, picking out at least two good things about it and one thing to improve.

TASK: Plan for peer tutoring

Think of a child who needs help in some aspect of learning.

Who could be a learning partner for that child?

What advice will the learning partner need?

Where should they meet? When, and how often?

In what ways can you support the partnership?

Working with partners will give a child confidence to work in bigger groups . . .

Learning in a group

'I like working in a group when you know what you have to do . . . when you each have a job. Otherwise you might just as well be on your own', James, aged 8.

If all teaching were done on an individual basis, a teacher could only spend a little amount of time with each individual. More time can be spent with children when they are grouped together, and they can learn more from working with each other.

The advantages of working in a group can include the development of:

- *social skills* (interpersonal intelligence) involved in working with and communicating to each other;
- *cognitive skills* through having to explain,

negotiate meanings and solve problems with each other;

- *emotional support* through being motivated by the enthusiasm of the group or its leading members.

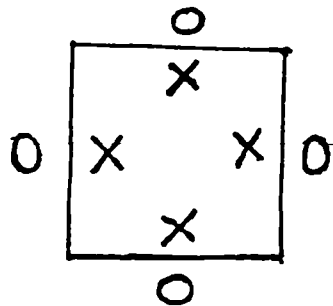
But these benefits do not arise simply by sitting children together. Research studies (Boydell 1975, Galton et al. 1980, Bennett et al. 1984, Tizard et al. 1988) in British classrooms show that where children were seated in groups, most of their time was spent on individual tasks. Typically children work in groups, but not *as* groups. Often sitting in groups positively distracts children from their work. Task related talk is not always task enhancing. Typical exchanges included: 'Where are you up to? I'm on . . .', 'Can I borrow your rubber?', 'Do you have to underline?' Nor do children in groups necessarily get much teacher attention related to their learning. Often teacher time is taken up in managing the group and organising resources. Children may also be left unsure about whether cooperation is allowed. When the teacher is present group activity is high, but drops to around 50% when the teacher is not actively engaged with the group. So what should be done?

One implication of these findings is that teachers should think carefully about the purpose of grouping children. Often there are no good grounds for sitting children in groups – they would work better on individual or paired tasks sitting individually or in pairs. It may be relevant to have different groupings for different tasks. Children should sit in groups, of course, for genuinely cooperative groupwork. But what is genuinely cooperative groupwork, and how is it achieved?

Grouping children together is only justified if it helps to promote more effective learning, and results in cooperative activity that extends what the individual could do alone.

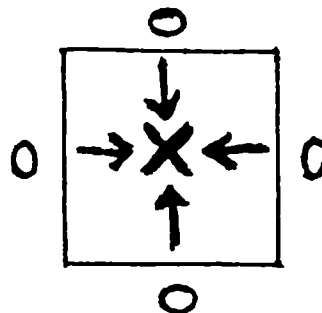
Fig 3 Three kinds of learning in groups

1.



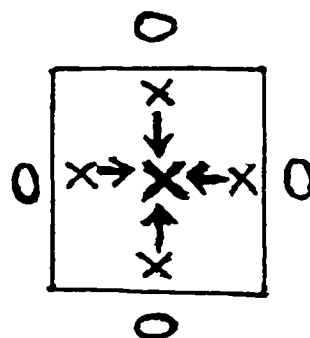
Children working in a group on individual tasks

2.



Children working together on a task with a joint outcome, such as a problem solving or construction task

3.



Children working together on activities which contribute to a joint outcome e.g. chapters of a story, or research task

What kinds of group work best? Research by Bennett (1992) and others indicates that groups of high ability children generally produced the highest degrees of understanding and performance in group work. Next came mixed ability and average ability groups, with low ability groups working least well. High ability children tend to work well in whatever ability group they are put in. They work well together, and in mixed or low ability groups they often take the lead in explaining the task and organising the thinking of the group. The fear that high ability children miss out in mixed ability groups seems largely to be unfounded. They can gain by taking the 'teacher's' role in helping the group.

The important factor about groupwork is that it is not just a social experience, but should impose cognitive demands on the children involved. So what kinds of task are best suited for cooperative groupwork?

Activities suited to group working include:

- *interpretative discussion* where groups investigate and discuss a given focus such as picture, poem or artefact — pooling ideas, sharing experiences or eliciting opinions, to interpret or describe what they have been given. Examples include: group reading, putting things in sequence e.g. cut-up lines of a poem, putting things in order of preference e.g. pictures, putting things into sets e.g. what will float/sink?

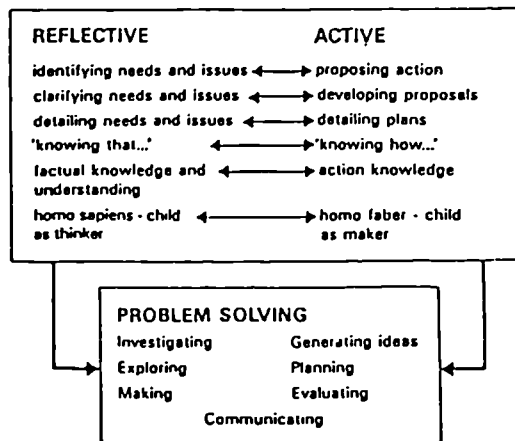
- *problem solving tasks* where groups discuss an open-ended problem or situation, and decide between possible courses of action. Examples include: organising a fundraising event, solving an environmental or social problem, tackling a computer task, or preparing a group presentation.

- *production tasks* where groups work in teams to produce a material outcome either by creating different prototypes and agreeing the best (as in designing a paper plane), or contributing different elements to a joint product (as in creating a newspaper), or working on one large product (as in making a paper tower).

A useful distinction can be made between

the two aspects of thinking that can contribute to a process of discussion — reflective thinking and active thinking.

Fig 4 *Reflective and active thinking* (from Fisher R. and Garvey J. (1992) *Investigating Technology Books 1-4* (Simon & Schuster)



These two aspects of thinking relate also to two aspects of groupwork, getting group members to reflect on how the group functioned as well as on the active outcome of the group effort:

How well did we work as a group?
How successful was the outcome?

Successful groupwork depends on good planning.

In planning for groupwork good advice is to start small, start simple and start structured. One way is to give pairs of children a simple task, like predicting the end of a story. Then put two pairs together to share ideas. This is useful for each pair has a contribution to make to the discussion. The group can then share with a larger group, such as a class. This strategy can be summed up as:

Think-Pair-Group-Share

Key elements in planning for groupwork include:

- *group size* — which size groups work best?

- *group composition* e.g. free choice, friends or ability groups?
- *group management* — what skills and strategies make for success?

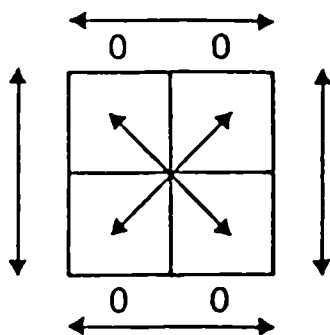
Group size

The National Curriculum asks teachers to set up different groups for different tasks and purposes. Which is the best size for group-work? Research suggests two answers to this:

1. *No fixed rules*, with groups of 3, 4 or 5 used for different tasks and purposes.
2. *The rule of four*, which argues that groups of four allow for maximum communication between individuals, and that in groups of 3 or larger-than-4 there are often outsiders.

Fig 5 *The rule of four*

(from Fisher R. ed. *Problem Solving in Primary Schools* Simon & Schuster, 1987, p.39)



Group composition

Two elements necessary for successful groupwork are security and challenge. Friendship groups offer students the greatest security, but not always the challenge needed to extend their thinking. Friendship groups also do not extend the social skills involved in relating to children they do not know or do not like. Success in life involves working at times with all sorts of people, and children should sometimes be persuaded to work in groups despite personal likes and dislikes. Mixed ability groups are likely to benefit the widest range of pupils, though opportunities should be given for those of similar ability, especially high attainers to work together.

Do children work better in gender or mixed-gender groups? The evidence on this is mixed. Key factors seem to be the personality of individual children, and the balance of skills in the group. Groups work best, irrespective of gender make-up, if they have a good blend of cooperative skills.

Groupwork skills — teambuilding

Research (Slavin 1987, Bennett and Dunne 1992) indicates that children need to be taught *how* to work in cooperative groups. Students need to be made aware of the kinds of skills and behaviour that make learning in groups effective. Team building is necessary to help overcome the various problems associated with working together. Skills needed include:

- the ability to understand the needs of others and to take turns;
- the ability to articulate a point of view;
- the ability to listen to the viewpoint of others;
- the ability to respond, question, discuss, argue and reason.

These skills are not in themselves innate, they have to be learnt. They can be divided into two kinds — the cognitive skills involved in processing information, and the social skills of working as a good team member.

Various barriers may need to be overcome. Barrier behaviours include being opinionated, aggressive, over-dominating, competitive, attention-seeking, messing around, rejection of others and withdrawal. Groups will sometimes allow their 'stars' to do the work and make the decisions, and allow 'free riders' to opt out of all contributions. 'Stars', 'free riders' and other stereotypes can be identified in any group situation, staffroom or club.

Here are some activities that can help develop groupwork skills:

1. *Who works or plays in group teams?*

Children brainstorm different kinds of groups or teams, such as sports teams, factory teams, hospital teams, school teams etc. List and

share these. Choose one e.g. sports team. Discuss: What makes for good teamwork in this team?

2. *Why work in a group?*

Brainstorm with the students the reasons for working in a group. When a teacher of 6 year olds did this the responses she got included:

- 'to practice getting on with one another';
- 'to learn things other people know';
- 'to get help with spellings';
- 'to cooperate and help';
- 'to listen to one another';
- 'to think';
- 'to solve problems';
- 'to sort out what you will do'.

3. *What rules should there be?*

Ask the children in groups to think of about 6-10 rules for working together. When these have been agreed children can make a group poster to show and share with others.

Fig 6: Rules for discussion agreed by a group of 10 year olds

1. Give everyone a turn at speaking.
2. Don't interrupt when someone else is talking.
3. Give support and help them add things.
4. Don't say anything stupid, mean or unpleasant.
5. If people don't want to say anything they don't have to.
6. Don't laugh unkindly at something someone has said.
7. Think before you ask a question.

4. *Can you make a group display?*

Ask students to plan a display of work to which everyone in the group contributes, for example an art mural (try giving each member *one* element of the final design e.g. one colour or one shape), a writing or research project, a music or movement presentation, a design or construction, or a puppet play.

5. *Could you survive as a group on a desert island?*

Groups imagine they have been shipwrecked

on a desert island. What would they need to survive? What could each member of the group offer to do to help the others survive? What tasks would need doing? How would they share these tasks?

If they found a box washed ashore, what items would they most like to find in it to help them survive? (agree on 10 items, and try to list them in order of importance).

6. *Can your group give advice to help solve a problem?*

Groups consider a problem that has been presented to them. They must discuss and try to agree a joint response to the problem. Examples of problems include common moral dilemmas such as: 'Two students find a £5 note in the street. What should they do with it?' or problems contributed (anonymously) by pupils themselves.

7. *Can you read in a group?*

Groups share reading aloud of a story or book, and discuss what they have read. Most students will need some guidance when asked to discuss a story, and it may be helpful to brainstorm a list of questions to help the group focus on the story, the illustrations and the way the story has been written.

'If three or four persons agree to read the same book, and each brings his own remarks upon it, at some set hour appointed for the conversation, and they communicate mutually their sentiments on the subject, and debate about it in a friendly manner, this practice will render the reading of any author more abundantly beneficial to every one of them.' So wrote Isaac Watts in 1811, but as anyone who has had experience of organising groupwork will know, problems are almost bound to occur. Humans are social but not necessarily sociable animals. Some students may be 'group refusers'. Strategies to deal with these include starting small, in pairs; keeping it short; rewarding good participation; varying the groups; allowing the child to observe a group in action; or trying firm persuasion ('forcing the child' in Rousseau's sense, 'to be free'). Over-quiet and over-dominating children may pose problems. Sometimes it helps to put the retiring

child in a quiet group, and a 'dominant' child with an extrovert group.

Another possible problem is that group members may demand individual attention from the teacher. One way to avoid excessive demand is to have the rule: team questions only. If the child has a question she/he must first ask a member of the team. Only the spokesperson for the team may consult with another team. If, after trying, the team cannot find an answer they may then ask the teacher the team question. The aim is to move the team from teacher-dependency to group independence. As one teacher put it, 'I'll only help them if at first they've tried to help themselves.'

It helps to remember the old saw 'Keep 'em busy'. Give the group specific tasks to undertake, in either verbal or written form. If you have set them an open task have an alternative or extension activity ready, such as a checklist of things to discuss or a sequencing activity. If members of the group are going to have different roles such as chairperson, scribe, reporter, expert, sort this out beforehand. Make clear to them your own role in supporting, evaluating and rewarding their group effort. The aim is of course for the group to feel, 'We did it ourselves!'

Evaluating groupwork

Evaluating the process and outcomes of groupwork is important for students to monitor their cooperative behaviour and identify what they have learnt, and for teachers or others to assess what happened during the groupwork task and the outcomes of it.

The following questions can help children focus on different aspects of groupwork, and help promote the skills of self-evaluation:

- What do you think this work was about?
- What do you feel about what happened in your group today?
- What was good about your groupwork?
- What could have made it better?
- What do you think you have learnt?

The focus should be on *what actually happened* and on *lessons learnt* from the experience. For the teacher the best ways of monitoring participation and progress is by a combination of:

1. Direct observation and note-taking (or listening to a tape-recording of group talk);
2. Discussion with individuals, with the group or with the class;
3. Response from group members writing or drawing about the group task.

Assessment of group activity is made difficult by the complex interweaving of the social and cognitive aspects of learning. One child asked to assess what he had learned from his group activity replied, 'I haven't learnt much about building bridges but I now know how to stop Jason putting his hand up my bottom!' Many teachers are never without a notepad to record observations of students at work. It is advisable to focus on one group, or on the work of 3 or 4 children a week trying to record key experiences and looking for the 'aha!' moments of learning breakthrough. Here is an example of an observation record sheet:

Fig 7 Observation record

Name..... Curriculum area.....			
Date	Activity	Context	Observations

Learning in large groups

There are many benefits to be gained from learning in large groups — the traditional approach of organising and teaching children in classes. A large group or class is a community, and should provide the benefits of community support, resources, and extended opportunities for learning. Research (Mortimore et al. 1988, Croll and Moses 1988) shows a link between successful learning in schools and high levels of effective whole class teaching. What are the factors that make for success with children learning in large groups?

Two aspects of the benefits of learning in a large group are:

- *the social/cultural context* — the ethos of standards and expectations created and maintained by the community, school or class, and which become reflected to a greater or lesser extent in the individual learner. A community or a school can create a powerful learning environment, which will exert a strong influence on the learner. A large group context should provide the essential structure, purpose and control needed for learning to flourish.
- *the cognitive/intellectually challenging context* — the intellectual stimulus to challenge and extend the child. Effective class teaching involves the use of 'higher order questioning, explanations and statements, and these in turn correlate with higher levels of pupil performance' (Alexander, Rose and Woodhead 1992), particularly in the basic subjects. Such teaching should aim to involve *all* the pupils in active thinking and responding.

Not that active thinking is always seen as a good thing. As one child recently said after his class had been brainstorming for some time, 'Can't I get on by myself, all this thinking makes my brain hurt!' But another child's response was, 'I like this thinking together, 'cos it helps you think more.'

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THEME 2 Part 4

Fisher R. (1993) *Talking to Learn.: Creating a Community of Enquiry*
Socratic Education, Aspects of Education, Journal of the Institute of
Education, the University of Hull, No 49, 1993, pp. 36-49

This paper was invited as a contribution to the special issue of a journal on the theme of Socratic Education. The article explores the theory and practice of creating a community of enquiry in the classroom, and includes a transcript of philosophical discussion with children.

TALKING TO LEARN

Robert Fisher

As civilised human beings, we are the inheritors, neither of an enquiry about ourselves and the world, nor of an accumulating body of information, but of a conversation, begun in the primaeval forests and extended and made articulate in the course of centuries. It is a conversation which goes on both in public and within each of ourselves And it is this conversation which, in the end, gives place and character to every human activity and utterance.

Michael Oakeshott

You don't know what you know until you say it. - James, aged 9

James is a quiet boy. In a class of lively nine year olds he can be easily overlooked. As a rather isolated and undemonstrative child his abilities could easily be underestimated. He strives in a group to be invisible. But sometimes, as in this lesson, his conversation flowers. It was a discussion in a Philosophy for Children class, talking about whether the brain is the same as the mind. 'You know a lot of things, said James, 'but you don't know what you know until you say it.'

His argument seemed to be that there were many things, items of knowledge and suchlike, stored in the brain which you only knew about if you brought them to mind. Sometimes this 'bringing to mind' occurred in dreams, sometimes in thoughts and sometimes in speaking. Much of our knowledge is tacit . Once articulated this knowledge no longer simply resides in tacit form. When articulated what Whitehead called 'inert knowledge' . It becomes available for inspection, available for performing a variety of tasks. This 'bringing to mind' through talk can be a powerful thinking and learning strategy. It can be called the principle of *articulation*..

Articulation includes any method of getting others to articulate their knowledge, beliefs and ideas. There are several different methods for encouraging articulation. One approach is *Inquiry Teaching* (see Collins & Stevens, 1983). The following are some strategies for encouraging students to use thinking/learning skills through processes of enquiry :

- * **formulating questions** that the text or topic raises, to encourage self monitoring of understanding - *What does it mean? Why does s/he/it say this? What is the main idea?*
- * **summarising** to check that they have comprehended what has been said/shown/suggested. If a student cannot form a good summary then it shows gaps in understanding, and they may

need help in clarifying their difficulties - *What did s/he/it say? What was the story? Can you say it in a few/your own words?*

- * **clarifying** to monitor comprehension. Where summarising seeks the global Gestalt of a whole picture, albeit in miniature, clarification aims to focus on details or narrow points of interpretation - *What does that word/point/detail mean? Can you explain it?*
- * **prediction** to create guesses or hypotheses about what may happen/be said next, reflecting the fact that skilled thinkers anticipate and develop expectations about what may happen next, reasoning from past evidence and similar cases - *What will happen/be said next?*

In encouraging articulation of ideas we are encouraging a search for personal knowing, rather than seeking the content and structure of public knowledge. Each individual has a pool of knowledge, received through sensory input which constitutes as it were the raw material of understanding. This given or public knowledge needs to be processed, patterned and connected to existing structures of understanding if it is to be properly absorbed and made personal. The learning process can be seen as a search for meaning, and if students are to become independent learners, what Augstein calls 'self-organised learners' (Augstein & Thomas, 1991), then we must help them to gain some control over the development of their personal learning. This we can do by improving the quality of personal knowing, within ourselves and within our students.

As individuals we represent our thoughts, feelings and ideas in many forms. We do this through differing forms of intelligence - primarily through visual, kinaesthetic, and symbolic means. Within each of these systems various relationships are being constructed as the individual interacts with the world through the mediation of language, art or other technical means. Each of these different forms of representation become part of our totality of understanding about the world, and each plays its part within an individual's unique pattern of meaning. Whether it is riding a bicycle, drawing a picture or composing a poem we each represent our own *personal understanding* and ways of doing things.

Language plays a key role in our symbolisation of things, ideas and events. As Quine has said, what we fundamentally have to work with are words and objects. It is through the conceptualisation of objects and experiences that we create our complex system of personal meanings. We ourselves may only be dimly aware of the nexus of meanings within which we operate. This perhaps underlies the Delphic injunction 'Know thyself'. The Socratic quest of philosophical inquiry through questioning and self-questioning, can be seen as method for getting at personal meanings which may otherwise remain hidden. Socrates, like James, believes that we know more than we know.

Education puts a heavy emphasis on symbolic forms of knowing, often at the expense of other ways in which experience is represented within each of us. Success in school comes too often comes from the symbolic reproduction of given or public forms of knowledge, rather than from the expression of personal meanings. Knowing becomes associated with abstract relations divorced from personal experience. If more emphasis was given to developing insight into personal meanings, this could help enhance self-knowledge, and awareness of the learning process, and also help enrich the representation of public knowledge including the rich resource of cultural knowledge of which we are the heirs.

From an early age we begin to develop 'theories' about what we know and experience. These become the basis of our actions and responses and are tested, validated, revised or improved in the light of subsequent experience. They help us to anticipate and to comprehend events, and allow us to create order out of what would otherwise seem to be random and inexplicable. If this meaning-making capacity is adequate, and subject to testing against reality, then we can achieve competence in our lives. The relationship between the inner world of mind and the outside world becomes creative. Our competence in solving a mathematical problem, painting a picture, or maintaining a personal relationship all depend on this capacity to construct meanings, from the interaction of ourselves and our environment. Inadequate meanings lead to inadequate responses, to poor levels of anticipation and an inability to comprehend the consequences of ideas and actions. Socrates summed this point up succinctly when he said: 'The unexamined life is not worth living.'

How do we help this construction of understanding in ourselves and in others? One way is to converse with ourselves about our experiences, to model the world as we understand it in words. Vocalisation gives substance to thinking. More accurately this is sub-vocalisation, for the words do not need to be audible. As adults this 'talking things through' to oneself may seem a natural enough activity. We do not have to see Shakespeare's *Hamlet* to know the experience of a 'stream of consciousness' soliloquy. For children, at the early stages of self awareness, it is an experience to be encouraged. Teachers can encourage this process by modelling it themselves, by talking things through out loud or as a soliloquy. This can take different forms, for example:

- * **defining the problem** - saying what the situation is, where you are and where you hope to get to or to achieve, answering for example questions like: *What is the situation? What do I want to achieve? What is preventing me from doing it?*
- * **planning** - talking through a step-by-step approach to a problem, outlining what one hopes to achieve and the stages one hopes to go through. We know from research that a key factor

that differentiates experts from novices in most fields of activity is that experts spend more time at the planning stage. Steps in the planning process to model include: *Where to start? How to start? What is the essential sequence of actions needed?*

* **monitoring** - checking the progress of a plan, action or experience: *Is the plan working as expected? What needs doing/thinking about? What should happen next?*

* **reviewing** - verifying that the task has been achieved: *Has the task been finished correctly? have I achieved what I set out to do? Do I finish now, or do I need to do more?*

There has been much research into the value of planning and the development of planning skills in education (Ashman & Conway, 1993; Fisher, 1987,1990). Rehearsal in words is only one strategy to help with this. In sports coaching much stress has been placed on the value of the 'inner game', on the belief that planning, anticipating and framing models of play in our head will help improve subsequent performance. We need also to help learners mediate the 'inner game' in their heads to improve the quality of their learning process. Developing the inner game, the inner aspects of conversation is just one way to do it. (As one child reported - "I like talking things through to myself - no-one interrupts!"). Another way is to turn this inner conversation into a shared event, into a '*learning conversation*' (Augstein, 1993).

A learning conversation can be structured round any event or experience. What differentiates a learning conversation from ordinary talk, from day-to-day chat and routine conversation is that it expresses higher-order thinking and raises the process of learning into awareness. A learning conversation contributes to understanding. Strategies to support this, including questioning, summarising, clarifying and predicting, have been given above. A learning conversation involves some form of positive cognitive intervention. It does not leave everything as it is. It contributes to learning or an awareness of learning. Whatever the activity, be it a child learning to read, a student revising for an exam, an athlete learning a new technique, a cook creating a recipe or a traveller planning a route, all are taking part in events from which they can learn. All can be helped to understand more about the learning processes in which they are involved. All can benefit from a learning conversation.

The trouble with learning is that it soon becomes a matter of habit, of unconscious activity, so automatic that it is no longer under conscious control. We perform without thinking, in routine sequences of non-adaptive task-bound behaviours. In seeking to improve learning performance we are seeking some personal change, some disruption of perhaps poorly organised routine skills, and the establishment of new and improved patterns of behaviour. An important aspect of a learning conversation is to help students to gain an awareness of their own processes of learning and doing.

Elements of a learning conversation can include:

- * **defining the purposes of the activity**, for example by discussing: *Why are you doing this? What do you hope to achieve? How will it help (eg to fulfill your needs/ambitions, or the needs of others)?*
- * **developing strategies and tactics**, for example by discussing: *How can you succeed/do well? What problems/obstacles do you face? What ways can you try (to succeed/ overcome problems)?*
- * **evaluating outcomes**, for example by discussing: *Have you succeeded? What is good about what you have done? What could be improved?*
- * **reviewing the whole process**, for example by discussing: *Would you do this again? Would you do it this way? What have you learnt from doing it?*

Any learning activity consists of a number of sub-events out of which the whole experience develops. There is thus a double-focus in any activity - or learning conversation, the parts (separate instances, events, experiences, actions, ideas etc) and the experience or topic as a whole. Discussion needs to focus therefore on both general principles and particular examples. It needs to provide insight into parts (analysis), and an overview of the whole (synthesis). As an example of ways of engaging children in a learning conversation about reading, the following are some questions (adapted from Arnold, 1983) which can act as door-openers to a child's thinking:

TALKING ABOUT READING - some questions to ask

1. Defining the purpose of reading

- * *Why are you reading that book?*
- * *Do you think children should learn to read?*
- * *Why do you think adults need to be able to read?*

2. Developing strategies and tactics

- * *What made you choose this book?*
- * *Is it a difficult (hard) book?*
- * *Is it more difficult or not so difficult as your last reading book?*
- * *What makes a book difficult to read?*

- * *If you come to a word you don't know, when you are reading by yourself, what do you do?*
- * *How would you help someone to read?*
- * *How could you become a better reader?*

3. Evaluating outcomes

- * *What do you think about the book you have read?*
- * *Would you recommend it to others? To whom? Why?*
- * *What kind of book was it?*
- * *What can you say about the... (text features eg characters, setting, plot, action, outcome)*
- * *Do you think you are a good reader? What makes you think that?*

4. Reviewing the process (eliciting views on reading)

- * *Do you like reading? What do you like reading?/ What do you like about it?*
- * *What kinds of books do you like best?*
- * *Where do you get the book from?*
- * *Do you prefer to read quietly to yourself, or to read aloud to someone? Why?*
- * *Do you read a lot at home? More than at school? Why?*

Teachers have always been aware that language has a critical role in how we think and learn. One of the limiting characteristics of thinking is that it is a private activity. We cannot give students direct access to our thoughts (this has its advantages!), we can only express them in speech. We externalise our thoughts through dialogue, which involves important processes such as rehearsing in the mind what we are to say, making meaning (translating thoughts into language), and listening to others.

There has been much research in recent years into ways teachers generate talk with and between children. Much of this impetus in the UK has come from the National Oracy Project, involving hundreds of teachers and nursery staff. Close attention has been given to the use of talk in the classroom, often involving the analysing of evidence on tape. This has highlighted the value of exploratory talk, of talking round, talking through and talking about topics of study, as well as the importance of having a purpose and an audience for talk. Talk needs to be directed to an end, towards a question, or focus of enquiry or as part of a learning conversation. Talk for its own sake may be congenial, but it is often unproductive, as the idle chatter of children in unsupervised groups often shows. But the tapes and observations of teachers also revealed ways in which teachers sometimes negated their purpose of supporting learning through talking.

Teachers confirmed what much research into classroom interaction had suggested that in their conversations teachers took up more talking time than children. The recommended

interviewer/interviewee ratio of talk should, it is said, be about 20/80, but teachers often find themselves not providing good models for discussion. "I heard myself dominating the discussion", said one teacher, 'interrupting children, asking questions and rephrasing answers, and, worst of all, not listening to what they said.' (Norman, 1991).

In classroom discussion children tend to talk directly to the teacher, competing for attention, or become monosyllabic in their responses. They become dominated by the need for approval, rather than by the search for understanding. They tend to be fearful of taking risks, inhibited from exploring the unfamiliar or from building on the ideas of others - all aspects of talk that need to be developed if children are to fully explore their ideas. This is partly due to the standard forms of classroom discourse, where the teacher takes on the role as the provider of answers and the dispenser of approval. Such established patterns are hard to alter, but for genuine Inquiry Teaching, or for a Learning Conversations, there is a need to make explicit any changes that are being made in the 'educational ground-rules' (Edwards & Mercer, 1987).

The ground-rules for 'talking to learn' should include the teacher making clear their role in the learning situation, for example in the role of:

Teacher as expert

There are many situations where teachers need to take on the role of expert, sustaining the attention of individuals or groups, leading pupils to higher levels of understanding through direct teaching methods. This means 'scaffolding' the steps to learning and understanding so that students achieve their optimum potential in assisted learning or performance, what Vygotsky called 'the zone of proximal development' (Vygotsky, 1978). This may be achieved for example by explaining, by questioning or by demonstration.

Teacher as facilitator

Teachers often organise situations where children are working in groups. In this role the teacher has a management function rather than a direct teaching role. The children may be free to explore ideas and to help each other in a collaborative venture without constant reference to the teacher, although the teacher may intervene when pupils don't seem to be getting on. Students can benefit from working collaboratively without teacher intervention, and can become skilled at managing group interactions, for example ensuring that each in the group has a turn. It is helpful if groups have had a chance to establish and agree the ground-rules for discussion beforehand.

Teacher as participant

Discussion between pupils can often be useful, but talk for learning is generally enhanced by the active participation of a teacher or experienced adult. The benefits that a teacher can bring

to an inquiry or learning conversation include the following elements of mediation (Feuerstein, 1980):

- * *focusing* eg by directing attention to important points, issues or factors
- * *seeking meaning* eg by asking for reasons, explanation or clarification
- * *expanding* eg by showing links between ideas, and links to new ideas
- * *rewarding* eg by verbal or non-verbal expressions of positive response

One of the purposes of teacher as participant is to get pupils to talk and listen to each other, rather than directing all their talk through the teacher. The aim is to help children to feel independent and equal in their responses to each other, and to create what Lipman calls 'a community of enquiry' (Fisher, 1990). Some strategies that have helped in this process include:

- * teacher sitting at the same level as the children, as one of the audience
- * all sitting in a circle, everyone getting a turn to speak if they wish
- * using a symbol eg a 'talking shell' or 'magic microphone', where only the person holding the object can speak
- * encouraging speakers to face the person to whom they are talking
- * think-pair-share, where each child has a talk partner to think about, discuss and contribute together
- * asking a child to chair a group discussion
- * listening more than you speak, allow 'thinking time', use eye-contact and supportive interjections, like 'Mmm' or 'Yes...' to encourage children to expand on their meaning
- * giving your own opinion, idea or experience to stimulate thought instead of asking too many questions - sometimes playing 'devil's advocate' by arguing an opposite viewpoint

What are the occasions when talking to learn can be stimulated in the classroom? All areas of the curriculum can provide opportunities for learning conversations and inquiry - or specially devised thinking skills programmes can be used for this purpose. *Philosophy for Children* is one such programme (see Fisher, 1990, p155-184). Below is a brief summary of the processes involved, followed by an example of a discussion using the Philosophy for Children approach. The format for a Philosophy for Children lesson involves:

1. Children reading round the group or class part of a philosophical story.
2. Having read the story, children are asked what they found interesting or curious, and to choose an idea they would like to discuss.

3. Children's responses are written on a board in the form of questions, with their name written alongside their question.

4. A question is chosen from the board to form the basis of enquiry and discussion.

The following dialogue was prompted by reading part of *Harry Stottlemeier's Discovery* by Matthew Lipman. Comments come from a group of 11 year old children. After raising several questions from the reading, one was chosen for discussion

RF Is your brain the same as your mind? Let's see if we can get a bit closer to an understanding of that . Tom why did you ask that question?

Tom Well is it, I mean your brain controls your heart and your arms and everything that goes on in your body, but does your mind really think 'Okay I'll move left,' and do you think 'Okay brain send messages down to the muscles to move'?

RF So are you saying because the brain has its messages that the mind is not aware of that it means that the mind cannot be the same as the brain?

Tom Yes it isn't the same as the brain, because ...its part of the brain but it isn't the brain.

(This age-old question in philosophy prompted a number of comments from children, agreeing, disagreeing, suggesting or building on ideas...)

Child I think I'd agree with Tom that your mind is part of the brain. But ... if you'd like to put one inside the other you'd put the mind inside the brain

RF So if the mind is inside the brain...

Tom Or inside part of it

RF Part of it. How do you think it's different from the brain. If not same as brain it must be different, mustn't it?

Tom Well the brain controls everything about us, the mind as well, but the mind only controls our thoughts ...and contains our thoughts.

Child Memory

Tom *I think the mind is made out of memories and thoughts ...it's a thinking bank*

RF *So is the mind the same as the brain ,but the brain just bigger than the mind, or is the mind different from brain?*

Child *Different*

Child *Yes*

Child *Because it doesnt control anything ... the mind just thinks*

Child *The mind I think is our thoughts more than controlling our body. I mean our brain sends messages everywhere round our body all the time to nerves and everything, or they are sending messages to the brain but the mind isn't part of this I dont think.. I think the mind just contains your hougfts*

Child *and memories .*

(The discussion moved on to what happens when you die....)

Child *I think when your brain dies its like a shut down, and it shuts down your body. And I dont think your mind does carry on really , it just shuts down every system and your brain has to work your mind really because I don't think your mind would really work if your brain had shut down.*

(Children went on to discuss what happens in the mind when you dream, and were then encouraged to think of analogies for the mind...)

RF *Would you agree with someone who says the mind is a bit like smoke in brain ..a sort of strange ghost?*

Child *Yeah*

Child *Yes*

RF *If its like a strange ghost then could it live outside the brain?*

Child *Not like a ghost*

Child *The mind's not like that ... its not very good*

RF *Not good way to describe the mind? A lot of thinking goes on in what are called analogies. We've got to liken it to something else to understand it better. What would you say the mind is like ?*

Child *Like a big warehouse ...with things on the back shelves of your memory ...and things being moved around in your thoughts*

Child *Yeah*

RF *So part of the warehouse is called the mind? The active part....*

Tom *No, the warehouse is your mind.*

(Discussion continued on how the mind was like a warehouse).....

RF *If the mind is like a warehouse what is the brain like? Can your to continue this analogy...?*

Child *A brain is like a ...a beehive*

Child *A dock,..... containing lots of different warehouses for doing different things*

Child *An ants nest!*

(The topic ended with children being offered a 'last word', and the chance to sum up their thoughts ...)

RF *So if we come back to Tom's question - 'Is your mind the same as the brain?' - we could now formulate a much better answer to that couldn't we?*

Tom *Yes*

RF *How would you sum up your answer now Tom?*

Tom *Your brain is like a dock and your mind is like a warehouse in it containing all your memories and thoughts on lots of different shelves..... and your brain sends out different messages around and across the dock..*

Talking to learn, as this example shows is not an exact art, it is a process of learning to think and to feel through learning to talk with and to listen to others. The role of the teacher is to be a model this, 'teaching by example', to mediate the process by building on what children can contribute and by providing opportunities for enquiry and for learning conversations to take place. This exemplary role of the teacher is summed up well in the words of Michael Oakeshott - *'Not the cry, but the rising of the wild duck impels the flock to follow him in flight'*.

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THEME 2 Part 5

Fisher R. (1994) *Stories for Thinking: the Philosophy in Primary Schools (PIPS) project*,.

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This article written for a refereed journal with international readership was an introduction to the author's research into the use of stories for developing thinking skills through philosophy with children in primary schools. It focused in particular on the use of stories with young primary and nursery children. Further published outcomes of this project are presented in Parts 12 and 13.

Stories for thinking — the Philosophy in Primary Schools (PIPS) project*

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Stories have long been seen as a natural stimulus for discussion and investigation in primary schools. The focus of this paper is to show ways that stories can be used to generate philosophical discussion and so develop the thinking and literacy skills of primary children (Years 1–6). Lessons using philosophy with children have been given in a number of primary schools in the London area during 1993/94 as part of a continuing programme of research at the Centre for Thinking Skills into Cognitive Enrichment in the Early Years. The paper charts a theoretical background for the research, and draws on findings from the project to show how stories can be used to generate higher order thinking and language learning in young children.

Key words: Philosophy, primary schools, thinking skills, stories

'Philosophy helps you think' — 7 year old

Everyone thinks, or as a child recently put it to me — 'We all think, at least we think we do'. The quality of our lives and of our learning depends on the quality of our thinking. If we can systematically cultivate excellence in thinking then we should surely attempt to do so. But can we teach thinking? And if so how? There is evidence that a 'thinking curriculum', one in which learners are actively involved in high quality thinking, is 'winning long overdue recognition in education' (Nisbet, 1993). This paper looks at a number of possible approaches to creating a thinking curriculum for young children through the means of philosophical discussion stimulated by stories.

One of the key aims of education in schools is to teach literacy — the ability to read and write. These skills are seen as basic, and form along with numeracy the central thrust of the 'back to basics' movement in English education. These are often seen as low level skills, to be taught through repetitive and low level exercises. From this view of literacy it is easy to understand the view that teachers of young children do not need extensive training. Indeed the recently

*An account of research into the use of stories for developing thinking skills through philosophy with young children in primary schools

proposed 'Mum's army' of untrained teachers, and short-course school-based teacher training for teachers of young children can be seen as a product of this view of literacy-as-training. However we can look at literacy in a broader and more productive way. Literacy can be seen as the ability to think and reason within a particular social context (Vygotsky, 1978; Scribner & Cole, 1980; Langer, 1987).

The practices of literacy and ways of developing literacy depend in part on the social conditions in which they are learned. In certain societies, for example when the goal of teaching is to learn the Koran in Arabic, the appropriate mode of instruction would be memorization (Scribner & Cole, 1980). In preparing children to be full participants in a literate, democratic and multicultural society we need to focus on the ways of thinking that are involved in the many uses of literacy in school and in the community. These uses require abilities of reflection, of critical thinking and of problem solving (Fisher, 1987). On this view there is no right or wrong kind of literacy — only practices that are more or less responsive to the needs of a particular culture. Indeed different literary practices may co-exist, for example in our culture the use of rote memorisation techniques may be a very efficient means for young children to learn phonic sounds or letter names. Learning can be promoted through systematic instruction to give children rich domains of knowledge and skills. But we also need teaching that enables students, even young children to develop thinking and learning skills that will enable them to solve the problems they face in critical and creative ways (Fisher, 1990).

If one definition of quality in teaching is fitness for purpose, then for different purposes (and for different children) we need different teaching strategies, different approaches to literacy. If one of our purposes is to invite children into what Frank Smith calls the 'club of critical thinkers', then we need to show children models, and introduce children into contexts where higher-order thinking can take place. And we have strong pedagogical reasons for doing so. Studies of the most literate and able children show that they have aspects of knowledge and skills or competencies that less successful learners do not have.

These include:

- * knowledge of literary forms, purposes and genre, including metalinguistic knowledge
- * skills and strategies for processing literary knowledge including the ability to question and interrogate the text
- * ability to apply and transfer their learning and knowledge to other contexts

A research project on philosophy with children undertaken in west London schools in 1993/4 used as a focus these three elements of language learning — the teaching of metalinguistic elements for example by introducing young children to the language of discourses, reasoning and argument; the teaching of how to question and process literary and visual information; and the transfer of higher-order thinking processes into curriculum activities. But why philosophy, and why stories?

WHY PHILOSOPHY?

For the young child the world can seem, in William James' expressive phrase, one great 'buzzing, blooming confusion'. The task of the teacher is to help the child make sense of his /her world, and to open up new worlds of knowledge and experience. In doing this the teacher seeks to connect or bridge the larger world of ideas and public knowledge with the child's private world. Information and experience offered to the child remains meaningless and inert unless it connects with and becomes part of the child's own frame of reference. On this view the teacher is a kind of bridge-builder connecting the known and the unknown. One way these connections are built is through a process of translation, by helping the child to represent key concepts in terms that link with existing ways in which the child sees and understands things. This creation of bridges to understanding is not easy. It may involve trying to create different paths or bridges, for example working through words, pictures, physical expression or the manipulation of objects — using different aspects of intelligence, what Gardner calls our differing 'frames of mind' (Gardner, 1983; Perkins, 1985).

The aim should be to develop what philosopher John Passmore calls open capacities (Passmore, 1980), the ability in Bruner's words 'to go beyond the information given' (Bruner, 1986). To do this the teacher must do more than impart information, and more than leaving children to find out for themselves. We need to be concerned with the reasons behind the facts rather than just the facts themselves. Here philosophy, in the Socratic tradition of discussion, questioning and experimenting with ideas to see which ones make sense, has much to offer. If we are always telling children what to think they become passive receivers of knowledge, if we actively encourage them to think for themselves they become active learners and are given the means to think critically, creatively and to solve problems. How to do it, how to encourage independent thinking and learning is a key question for teachers of children at any age. Philosophy holds one possible answer. For rather than being told what to think, through philosophy children can encounter at first hand a community of enquiry in action.

There are several features to a *community of enquiry*, which is the term given by Lipman to describe a group or class of children engaged in philosophical discussion (Lipman, 1980, 1988, 1992). The following are some of the elements of a community of enquiry that we might seek to achieve with a group or class of young children engaged in philosophy:

- * questioning — stimulating children to think, ask questions and discuss answers in a group
- * reasoning — gaining practice in giving reasons to support and justify their views
- * discussing — encouraging children to articulate their ideas, translating thoughts into words
- * listening — motivating children to listen carefully, and to take turns in responding to others

- * explaining — providing opportunities for children to define meanings and extend concepts

For the young child the world is a puzzling place. Through philosophy children can come to a better understanding of the world, and of their place within it as individual learners and as active participants in a wider community. This has more than a cognitive perspective, for participation in a community of enquiry entails a moral dimension. Learning to listen to and respect the opinions of others is part of the *caring* for others that is central to the values of many schools. Developing the sense of belonging to a community of enquiry is a good preparation for citizenship in a democracy. Being accepted as a valued member of a group, of a club of critical thinkers, can also greatly enhance children's sense of self esteem, which is so necessary for moral and intellectual autonomy. So, when successful, doing philosophy with children has contributions to make to personal, social and moral education, as well as to cognitive development and understanding.

WHY STORIES?

The use of stories has long been recognised as a valuable means for stimulating philosophical discussion with young children in the primary classroom (Cather, 1919; Matthews, 1980; Egan, 1988; Murriss, 1993). All the great stories of humanity have the capacity to relate to the concerns and needs of people at different stages of development. They are 'polysemic', that is they have within them layers or levels of meaning and significance which we become aware of as we grow in experience and insight (Bruner, 1986). We can find ourselves returning to them again and again, seeking fresh insight and nourishment as life persuades us to reformulate and rethink those basic philosophical questions about what we know and believe, about right and wrong, about human relationships and the self, questions which are of relevance to people at all ages and stages of life.

One of the chief benefits of using story as a stimulus for thinking in the classroom is that a good story arouses the interest and involvement of the child. For Whitehead this was an essential first stage in what he argued should be the 'Cycle of Learning' whose stages he identified as follows:

Stage 1: *Romance* — involving arousal of interest and learner involvement

Stage 2: *Precision* — where attention is given to the details of what is being learnt

Stage 3: *Generalisation* — where what is learned is applied and used

What stories as starters for thinking should provide for young children is *romance*, an engagement of the learner in a narrative context, a motivation to be involved and to find out more. In stories there is an important link between memory emotion and imagination. If a story is worthy then the children will be emotionally committed to it. If children are affected by the story-line their

engagement will ensure a pathway to accessing its content, and its potential for thinking and learning.

Stories have a clearly justifiable place in the curriculum in the creation of a language and literacy-rich classroom environment. *Stories for thinking* (the PIPS project) aims to add to the language curriculum content a cognitive content focusing on the development of specific thinking and learning skills. What Whitehead calls precision is one element of this approach, and involves focusing the child on features of the text or narrative which are puzzling, need clarifying or questioning. Garvie (1990) in looking at teaching English as a second language to children lists five stages which she thinks young children go through in developing precision in their grasp of concepts – identifying (labelling or identifying the objects and elements in a story), qualifying (describing attributes, for example size, shape), relating (comparing, noting similarities and differences), classifying (sorting into categories) manipulating (using concepts to hypothesise, especially cause and effect, using imagination). From discussion of the particulars of the story the teacher should aim to move the discussion to the ‘generalisation’ stage — relating the particular points of discussion to a general, more abstract and higher level of thinking. But how is this move to be made?

Egan (1988) suggests a way in to the assessment of stories as potential vehicles for philosophical discussion. Egan advocates that teachers identify the binary opposites within a teaching topic. One way to identify what is important in a story is to find the binary opposites that are embodied in the story, for example life/death, good/evil, hope/despair etc. These can then become a focus for discussion, for generalisation from the concrete and particular elements of the story (and of our lives), to the important questions and concepts that matter to us all. These binary opposites may relate to matters of personal concern such as love/hate, friends/enemies, right/wrong; or more philosophical issues such as what is real/not real, the nature of life/death, and what the origins are of differences in the world.

Philosophy for children through story aims to create a situation where children learn:

- * how to discuss questions, problems and issues together in a Community of Enquiry
- * how to be clear in their thinking and reasoning
- * how to listen to and respect each other

Philosophy for Children lessons have therefore three kinds of aims:

1. **curriculum aims** — for example to help develop skills in English (especially in Speaking and Listening),
2. **cognitive aims** — for example in developing questioning and verbal reasoning skills
3. **moral and social aims** — for example to combat prejudice, encourage tolerance, and to help children feel confident about their capacity to think for themselves

THE PHILOSOPHY IN PRIMARY SCHOOLS (PIPS) PROJECT

Lessons in philosophy with young children, using stories, are being given in a number of London primary schools (in year/grades 1–5) as part of the Philosophy in Primary Schools (PIPS) project, which is part of a continuing programme of research at the Centre for Thinking Skills into Cognitive Enrichment in the Early Years.

The following kinds of stories are being used in this research project into philosophy with young children in west London schools:

1. *philosophical novels* such as Matthew Lipman's *Pixie*
2. *traditional stories* such as folk tales and fairy tales
3. *children's fiction* such as Arnold Lobel's *Frog and Toad stories*
4. *picture books* such as *Would you rather ?* by John Burningham.
5. *curriculum-based narrative* such as stories from history, linked to school topics
6. *poetry* such as nursery rhymes and narrative poems

Philosophy begins in wonder, and in asking questions. One of the key elements to cognitive development, and to the development of a wondering and enquiring mind, is that of questioning. One focus of the PIPS research is to look at ways of developing questioning skills in young children. Research with pre-school children has found that adults who asked more questions were less likely to receive questions from children, less likely to get elaborated answers from children and less likely to encourage children to contribute spontaneous ideas (Wood & Wood, 1983; Tizard & Hughes, 1984; Wells, 1985). Many teachers were found to be following a pre-set agenda, and were rarely seen responding at length to children's initiatives. Even when questioned, according to research by Tizard and Hughes, young children are often not cognitively challenged. Teachers tend to ask questions of the closed or leading type, seeking a one-off short answer. Indeed this research found that nursery/kindergarten teachers were not challenging their children in class as much as their mothers were doing at home. So how do we encourage young children to ask questions?

A characteristic of Philosophy for Children classes is a belief in the importance of making children's questions explicit, for example by writing them down on a board or in a book. The following are some questions collected by a teacher from the five year olds in her class after listening to stories:

What happens when you die? (Melinda)

Are there more than nine planets? (Johnny)

Is there another dimension? (Nicholas)

Why do grandparents spoil their children? (Olivia)

Why do ducks go into water? (Justin)

Why do dogs not like to take baths? (William)

Is there any kind of life on other planets? (Katie)

These were put on display by the teacher, with the child's name by each question. Later the questions would be put into a Question and Answer Book. In one class the teacher (and children) refer to their question book as their Philosophy Book. The following is a sample from one particular question-and-answer book created by a class of 5/6 year olds. One question posed by Melinda becomes the focus for many answers written by the class (or described by the teacher). Here is the question and some responses from the book:

Why are people different colours? (Melinda)

Because God made them that way. (Henry)

First mums and dads are born, then your skin is a combination. (Emily)

If everybody is one colour, that's not good, because everybody is special. (Katie)

It doesn't matter if you're a different colour. Families are different. (David)

I don't think God is any colour he's spirit. (Trudy)

I think God is invisible, but he could be visible and be any colour. (Nick)

The following was Melinda's answer to her own question — *If you were the same colour you wouldn't know who was who.* This answer, like many from young children, begs for elaboration. The meaning and reasoning process is not clear.

Free discussion in a community of enquiry provides children with the opportunity to say what they think, and to explore important issues. Here is how the same class of young children responded to the following question raised by one of the group — *What happens when you die?*

- *You turn into an angel*
- *God picks up your spirit and takes it to heaven*
- *When you die your bones are in the graveyard and your ghost is in heaven*
- *When a person is bad he goes down to the devil*
- *Only some people believe in the devil*
- *When you die your skin turns to dust*
- *I think your skin turns to soil, the rest of you into an angel and goes to heaven*
- *Half of you stays in the ground, and the other half flies around*
- *If you die you probably turn into a fairy*
- *When you die, your spirit goes to heaven, and your skin burns so you don't rot*
- *Your bones turn into a skeleton*
- *When you die you turn into ashes*
- *When you die your spirit goes to god and your bones are in the grave*

– *Sometimes your bones get broken ...*

Such questioning and opportunities for discussion are important, but there is also a need for the teacher to extend and develop children's thinking through offering appropriate cognitive challenge. Thinking is of course a holistic activity, but it includes a number of important elements, skills and attitudes. These include:

- * questioning — asking good questions to provide a focus for enquiry
- * reasoning — being logical (or scientific) to support argument and judgements
- * defining — clarifying concepts through making connections, distinctions and comparisons
- * speculating — generating ideas and alternative views through imaginative thinking
- * testing for truth — gathering information, judging evidence, examples and counter examples
- * expanding on ideas — sustaining and extending lines of thought and argument
- * summarising — abstracting key points or general rules from a number of ideas or instances

The PIPS research is looking at ways of developing these skills through using stories to create a community of enquiry which will promote the giving of reasons, and the formulation of argument and counter-argument. A number of questions have been found useful in the classroom for injecting intellectual rigour into a discussion with young children. They aim to move it away from children simply giving an answer, from anecdotal comment and unsupported observations to a style of discussion characterised by the giving of reasons and the formulation of argument. They encourage children to take responsibility for their comments and to think about what they are saying. The hope is that such questions in time become internalised and come to be asked by the children themselves. Examples of questions found useful in discussions include:

Questions	Cognitive function of questions
* What do you think..... (giving child's name)? What is your view/opinion/idea about this?	Focusing attention
* Why do you say that? Can you give me a reason?	Reasoning
* What do you mean by? Can anyone explain that to us?	Defining / analysing / clarifying

Questions	Cognitive function of questions
* Has anyone got another thought/idea/example? Who else can say something about it?	Generating alternative views
* How could we tell if it was true? How do you/we know?	Testing for truth
* Who agrees/disagrees with... (child's name). Why? Can you say who/what you agree or disagree with?	Sustaining dialogue / argument
* Who can remember what we have said? What are the ideas/arguments we have said so far?	Summarising

Another aim of the PIPS project is to research activities using story materials easily available to teachers that encourage children to process information and ideas in ways that will help develop their thinking. How is this achieved in practice? A typical PIPS session might take the following format:

Setting: children sit in a circle on chairs, with the teacher part of the circle

Introduction to the session. If children are new to philosophy the teacher may for example say: 'When you read or hear a story do you ever have thoughts or questions that come into your head? If two of you hear a story do you think you would have the same thoughts? Today we are going to hear a story and find out if you have any thoughts or questions about it'.

1. **Story-telling:** The chosen story is read, told or shown eg. in picture or video form, to the children so they get an idea of its flow and main ideas. The children may be asked to re-tell the story, or the teacher might map the elements of the story for all to see, with help from the group.
2. **Thinking time:** The class are asked to think about what they find interesting or puzzling about the story. The comments and questions from individual children are written on a board, with the child's name written after their contribution.
3. **Discussion time:** Children are invited to say something about a comment that interests them, leading to a discussion of the ideas involved. Teachers may also use ready prepared discussion plans and leading questions that focus on the key ideas of the story.

A philosophy session may last from thirty minutes to over an hour, although we generally find that two shorter sessions better than one longer one. This allows for a session on follow up activities to build on the issues and elements of the story. Among the activities are a number of *thinking games* which encourage children to generate and play with ideas. It is hoped that one outcome of the project will be to publish a collection of thinking games as a resource for teachers.

Not all stories are ideal as 'stories for thinking'. Many should be read, by teacher or child, for sheer pleasure in the words and pictures and for many other reasons. But books are a primary mode of transmission of ideas in our culture, and part of a child's experience of stories should be for discussing these ideas helped by a teacher. Another aim of the project is therefore to identify a range of story materials related to curriculum aims, topics and subjects, and to publish these as a resource for teachers, with advice on activities and extension work — to add to the growing range of publications that support philosophy with young children (Lipman & Gazzard, 1988; Lake, 1990; Murriss, 1992; Sprod, 1993; Sharp, 1993).

Finally an important focus of this research is to create situations where children have to think about their own thinking and learning. One way of encouraging this metacognitive awareness, and also to evaluate the success of discussions, is to ask children to say or to write what they thought of the session. What did they think of the story and the discussion? What makes a good story for philosophy? What makes for a good discussion? What do they think they learnt? Responses of course will vary, from the child who said — '*Philosophy makes my brains ache*', to the child who responded '*I think better with the window open*', and the child who wrote '*I think philosophy makes you think more because it gives you time to think*'. Time to think is all we need, not only adults but also young children.

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THEME 2 Part 6

Fisher R. (1994) *Would you rather...? Discussing dilemmas in a Community of Enquiry.*

Values Education Vol. 2, No 1, pp. 7-10

This paper was invited by a professional journal on personal and social education in a special issue on Philosophy and Children. It offered an introduction to the theory and practice of community of enquiry illustrated by classroom activities drawn from the Philosophy in Primary Schools project.

Would you rather...?

Discussing dilemmas in a Community of Enquiry

Robert Fisher, Director of the Centre for Thinking Skills

Lessons in philosophy with children have been given in a number of London primary schools (with classes in years 1-6) as part of a Philosophy in Primary Schools project. In this article Robert Fisher shows how a picture book can be used to stimulate reasoning and discussion in the classroom

'When I have a choice to make I like to think about it, and talk about it first' - Jane, aged 9

Children when given encouragement, are natural thinkers and wonderers. Their thoughts are important, valuable and interesting to them. They also, given the opportunity, are natural talkers. Their spoken ideas and insights may be unformed and incoherent, but they contain the seeds of a more sophisticated understanding. When given the chance to play with ideas, and given the right circumstances, they are capable of sustained levels of reasoning and argument. What we need to do is to create the circumstances for dialogue that will stimulate higher order thinking and reasoning.

But which approach should we use?

COMMUNITY OF ENQUIRY

One approach is to try to create in the classroom a community of enquiry. A community of enquiry is any group, or whole class, engaged in a philosophical exploration of ideas raised and shared with the group. The following are some of the elements that help create a community of enquiry in the classroom:

- * *questioning* - stimulating children to think, ask questions and discuss answers in a group
- * *reasoning* - gaining practice in giving reasons to support and justify their views
- * *discussing* - encouraging children to articulate their ideas, translating thoughts into words
- * *listening* - motivating children to listen carefully, and to take turns in responding to others

* *explaining* - providing opportunities for children to define meanings and extend concepts

For the child the world is a puzzling place. Through philosophical discussion children can come to a better understanding of the world, and of their place within it as individuals and as active participants in a wider community. This brings more than cognitive benefits for participation in a community of enquiry entails a moral dimension. Learning to listen to and respect the opinions of others is part of the *caring* for others that is central to the values of many schools. Developing a sense of belonging to a community of enquiry is a good preparation for citizenship in a democracy. Being accepted as a valued member of a group, of a club or class of critical thinkers, can also greatly enhance that sense of self esteem so necessary for moral and intellectual autonomy. So, when successful, philosophy with children has contributions to make to personal, social and moral education.

Philosophy for children aims to create a situation where children learn:

- * how to discuss questions, problems and issues together in a Community of Enquiry
- * how to be clear in their thinking and reasoning
- * how to listen to and respect each other

Philosophy for children lessons therefore have three kinds of aims:

1. *curriculum aims* - for example to help develop skills in English (especially in Speaking and Listening)
2. *cognitive aims* - for example in developing questioning and verbal reasoning skills
3. *moral and social aims* - for example to combat prejudice, encourage tolerance, and to help children feel confident about their capacity to think for themselves

So how is a Community of Enquiry created?

CREATING A COMMUNITY OF ENQUIRY

The best physical set-up for a community of enquiry is a circle. This is not always easy to achieve in limited space with large classes, but is worth the effort in moving desks and in creating a special sense of space and occasion. The virtue of a circle (or near-circle) is that all are equi-distant from the centre, all can see each other, and the teacher is part of the circle.

Sitting on chairs is best, though teachers sometimes prefer sitting on the floor with young children. The teacher is there to direct the form of the discussion, without contributing much to the content. The key is for the teacher to ask the right question of the right members of the community at the right time. And of course to provide the right sort of material to stimulate questioning and discussion.

A range of story and picture books can be used as starting points for philosophical discussion. One book that never fails to fascinate children is *'Would you rather...?'* by John Burningham. Early in the life of a community of enquiry in the classroom a teacher will often need to take a more forward and directive role. *'Would you rather...?'* is an ideal starting point for it maps out in some detail leading questions for discussion, and introduces children to some of the key moves in discussion such as giving reasons, turn-taking and the use of argument and counter argument.

At the outset the teacher needs to be clear about the ground rules for discussion, and will be trying to encourage children to:

- * take turns, indicating who wants to speak (eg by hand)
- * talk to each other, not always through you
- * give reasons for what they say
- * listen carefully to each other (can they summarise a previous speaker's statement?)
- * explain fully, by giving reasons, examples, a general rule

'WOULD YOU RATHER...?'

'Would you rather ...?' offers children a number of dilemmas or choices between options - sometimes pleasant, sometimes unpleasant, often unusual. The book contains a number of double-page picture spreads, which illustrate particular choices facing a child. A large-version of the book (size: 26x30cm, published by Red Fox) can be used to show the group a chosen dilemma. The decisions made will reflect individual preferences, and there are no right or wrong answers. However there may be a variety of reasons for choosing one alternative over another and choices can be challenged, or changed after listening to the reasons and arguments of others.

Aims

The aim of the activity is to give pupils practice in making choices, and in giving reasons for their choices.

Procedure

Show or read a page and ask children round the class for their choice *and* their reason or reasons for choosing it. Ask around the class, a few for each page. Try to get everyone to say something and to offer reasons.

The first question in the book is typical: 'Would you rather your house was surrounded by water, snow or jungle?' One way to bring dilemmas such as this alive is to embed it in a more narrative context, dramatising the situation by saying for example: 'You wake one morning, and get out of bed as usual. When you open your bedroom curtains you find the world has changed what do you think you could see?'

When discussing choices - for example 'Would you rather live with a gerbil in a cage, a fish in a bowl, a parrot on a perch, a rabbit in a hutch, chickens in a coop or a dog in a kennel?' or 'Would you rather be lost in a fog, at sea, in a desert, in a forest or in a crowd?' - ask if anyone has a reason why a particular choice would not be a good one.

Encourage children to challenge, or support, another's reasoning. Invite them to agree or disagree with one of the reasons given. Questions to help extend the discussion include:

- * *Why do you think that?*
- * *Do you have another reason?*
- * *Who has another point of view?*
- * *Who agrees/disagrees with x. ... Why?*
- * *Say whether you agree or disagree, and why*
- * *Can you tell us some of the arguments for and against?*
- * *Is anyone not sure about which to choose. Can you say why?*
- * *Has anyone changed their mind?*
- * *Is there a right and wrong answer to this question?*
- * *Who do you think has given a good reason?*

After the reasons for choices have been given and discussed, you could extend this to a vote on which the group think is the best option. This has the benefit of encouraging children to listen to and evaluate the reasons given, and to model a democratic way of taking all views into account. The children should decide the options that are being voted for. It may be helpful to discuss whether a minority opinion (a view which gets few votes) is necessarily wrong. Ask the class to indicate their preferences by a show of hands. Invite individuals to give reasons, and ask if anyone has changed their minds. What were the reasons they changed their mind? The point here to stress is that it is alright to have 'second thoughts'. It is good to be open-minded and you are right to change your mind in response to good reasons. Your

first thoughts are not always the best. By listening to others and taking time to think we may make better choices.

Extension

As an extension of this work ask the children to draw their own page of 'Would you rather...' dilemmas, and possibly create their own class book. It may be helpful to discuss possible introductions to dilemmas, such as:

- * Would you rather live?
- * Would you rather parents who?
- * Would you rather have a teacher who?
- * Would you rather become?
- * Would you rather have a friend who.....?

The aim here is to encourage flexibility of ideas, and to consider the creation of real choices. follow-up questions can include: *Are some dilemmas easier to decide upon than others? If you have a choice to make who can help you decide? Have you ever faced a dilemma (difficult choice) in your life? If so, how did you decide what to do?*

Other ways of extending this work include drama and role play, and the discussion of dilemmas facing characters in stories. In many classic folk and fairy tales there is a problem faced and a point of decision. for example a dilemma facing the characters in Sleeping Beauty has proved a rich source of discussion for primary children. Should the parents of the princess have told her about the curse of death if she pricked her finger, or is it better if she is not told?

Real-life dilemmas of course face us with many of our most important decisions in life. We all need the resiliency that thinking for ourselves, and being able to defend what we believe is right to others, can give. The following was a real-life dilemma facing a child one morning. On his way to school he found a five pound note in the street. He picked it up. No one had seen him. What should he do? Perhaps a more fruitful question to ask children is: *What could he do? (Consider the alternatives, or as de Bono's would say: CAF - Consider All Factors). In a recent discussion a junior class found seven alternative courses of action. What choices does he have? Which is the right choice? Which choice would you make - what would you actually do? Why?*

Between the intention and the action falls the shadow, and children are never too young to learn that life is a problem-solving activity, involving choices, and that we face them best in a spirit and community of enquiry.

THEME 2 Part 7

**Fisher R. (1994) *Moral education and philosophy in schools* .
NAVET Papers , Vol. X, November 1994, pp. 10-13**

This short paper was written in response to requests from editors of two professional journals to write a report on the conference on Moral Education and Philosophy in Schools, organised by the author at West London Institute (now Brunel University) in 1993. The paper appeared, with some minor changes, in this journal and in the SAPERE journal, Vol. 1, No. 5 (1993).

Moral Education and Philosophy in Schools - a conference report

How is Moral Education to be taught? This was the central question that brought ninety teachers and philosophers together on March 30th 1993 for an international conference on 'Moral Education and Philosophy in Schools' at the West London Institute.

There is growing concern in many countries about the problem of teaching values. And in this country hardly a week passes without some public agonising over a fresh example of lack of moral judgement. The important role that education can play, at home and school, in the moral development of children hardly needs emphasising - but two publications from the National Curriculum Council have highlighted the challenge schools face. 'Education for Citizenship' (NCC, 1990) emphasised the need for education for democracy, and more recently 'Spiritual and Moral Development a Discussion Paper' (NCC, 1993) emphasised the need for core values such as respect for others, respect for self and respect for the environment. It would be difficult to find fault with these values or with the call for pupils to develop the 'ability to make judgements on moral issues ... by applying moral principles, insights and reasoning' (Discussion Paper, p4). The problem emerges when the question is raised about how moral judgement is to be taught.

The simple answer is that schools should simply teach what is 'right' and 'wrong'. On this view teaching consists in upholding certain core values, such as truth-telling, care for others and following socially prescribed rules. But moral education must be more than teaching these core values, no matter how commendable these values may be. Values taught didactically may not be internalised, may not become part of the beliefs and values of individual children. The point is that children need to learn that all moral acts have reasons, and they need the skills that will help them to deal with the moral conflicts that they will face in an uncertain world. One approach which aims to encourage moral discussion and to help children be clear in their thinking about moral concerns is the growing international movement of Philosophy for Children in schools.

There was much discussion at the conference on ways in which philosophical discussion in schools, at all stages - infant, junior and secondary - can help foster moral reasoning and judgement. Dr. Phil Cam, from the University of New South Wales, reported on developments in Australia and discussed the theoretical background of the Philosophy for Children programme in schools. He stressed the view that education should be centred on the development of thinking. 'One cannot conduct moral education,' he argued 'without treating children as rational beings ... capable of reasoning about conduct.' Following Dewey and Lipman (author of the Philosophy for Children programme) he sees children as having conflicting natural tendencies - to be generous and to be selfish, to be competitive and to be cooperative, to love and hate and so on. In trying to teach our pupils to be thoughtful and reasonable persons, with the capacity for resolving conflicts in themselves and in society, we must see that the school environment, and classroom practice, is thoughtful and reasonable. One way to do this is to create a community of enquiry in the classroom which embodies the social forms of reasoning and of respect for others. Through participating in a community of enquiry children learn how to reason and can cultivate the social habits required for good moral conduct.

The argument for moral education through philosophical enquiry can be summarised as follows:

1. Democratic ideals require educational practices that avoid indoctrination and promote the ability of people to judge for themselves.

2. Therefore in moral education we should avoid moral instruction and concentrate on developing children's reflective moral judgement.
3. Developing children's reflective moral judgement requires a programme of moral education through which children come to think critically and responsibly about moral issues.
4. Philosophy through a community of enquiry is the best discipline for promoting thinking in education.
5. Therefore moral education should include a form of classroom community of philosophical enquiry.

But what form should this community of enquiry take? The conference considered and discussed various approaches to philosophy in schools. Karin Murriss (director of the Centre for Philosophy with Children) showed video clips of moral discussion between primary children generated through the use of picture books. Karin stressed the importance of engaging the child's imagination, which is why she advocates the use of well-known picture books, to encourage children to talk about moral issues such as right/wrong, bad/good, freedom, justice, fairness and so on. 'Philosophy with children', says Karin, 'is an imaginatively reasoning out of problems together.' Whatever the topic, she suggests, children can learn to build a community of enquiry whereby all participants are encouraged to use each other's ideas as building blocks to increase understanding. Philosophy she feels is ideal for children's personal and social education as through it they can learn to discuss logically and creatively such issues as freedom, rules, space, time, friendship and death.

This link between creative thinking and moral thinking, summed up in the need to encourage *imaginative reasoning*, was highlighted in a video clip of discussion in a junior class on the nature of imagination (inspired by a video of the picture book Where the Wild Things Are) when one child said: 'I agree with Paul, because without an imagination you can't draw, you can't read, you can't do anything without your imagination ..'

Victor Quinn from Bretton Hall College emphasised a more critical approach. He showed video evidence of what he calls 'provocation in role'. This technique is based on provocation and challenge - of the teacher playing 'devil's advocate'. To a class of primary children he says: "Look, I'm bigger and stronger than you, and I can shout louder. So if we have an argument I'll win, won't I?" One child replies, 'No you won't win, 'cos you wouldn't be right....' and the discussion takes off. For older students, and to the conference audience he threw out this challenge - 'If you believe in free speech then it's right to give a platform in school for the British Nazi Party to explain their case.' This provoked a lively discussion on the nature of freedom of speech - and the wider question of whether any moral education programme should be regarded as 'indoctrination'. Should the teacher be 'up front' with his or her own views on what is right and wrong? Should we seek to counter-balance every moral argument? Should we play 'devil's advocate'? Or are there better ways of encouraging moral resiliency in children and of encouraging them to reason about what is right?

Conference workshops and discussions explored different methods of teaching moral education, including the Lipman approach to Philosophy for Children. There are philosophy programmes in use in primary and secondary schools throughout the world. Teachers report that philosophy with children enhances children's self-esteem, which many regard as essential for a sense of personal and moral autonomy. Philosophy with children also aims to develop care in the classroom, and this developing a sense of community is seen as useful preparation for being a citizen of the wider community and of exercising democratic and civic rights. Many of the

philosophy programmes place special emphasis on this notion of a **community of enquiry** where children can feel free to express and explore their views openly and honestly.

The conference too provided an opportunity for an open exchange of views. Contributors included Patrick Costello from North East Wales Institute, Judith Hughes from Newcastle, Johanna Kiernon a primary teacher from Kent, and Roger Sutcliffe of SAPERE (the organisation that supports philosophy for schools in the UK). Approaches differed but all agreed on the idea that philosophy in the classroom can encourage and support 'the search for meaning and purpose in life, and for the values by which they live', and can promote both 'the search for individual identity' and 'a sense of community' all issues highlighted in the Discussion Paper, p2.

As one of the conference participants put it : 'One of the keys to understanding is good communication.' Common to the theory and practice of philosophy in the classroom is the aim to develop the cross-curricular skills of speaking and listening. but more, it is a means of promoting the 'curiosity ... the inclination to question...the exercise of imagination' which the Discussion Paper (p3) rightly observes are vital for 'the motivation to learn' .

The conference raised for discussion a number of important questions to do with moral education, including:

- * *What should the link be, if any, between moral education and religious education?*
- * *How can the moral dimension be developed through the whole curriculum?*
- * *Can moral education be taught without some form of moral indoctrination?*
- * *What is the best way to organise philosophical discussion with a large class of children?*
- * *How can we promote philosophical enquiry and reflection in schools?*

There was no one answer to any of these questions but rather a number of views which stemmed from a common belief in the importance of moral education. A common theme in the discussion of the theory and practice of philosophical discussion in schools was the close connection between the nourishment of the moral dimension and the development of reason. For children, and for us all, it is not just the question of knowing what is good that is important, but the ability to answer the question 'Why *should* I be, or do what is, good?' If there was one common message that came from the conference it was that any moral renaissance will be best served by the cultivation of careful thinking in the classroom.

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Note: Robert Fisher will be conducting classroom research in Philosophy for Children in schools in the west London area in the spring and summer terms of 1994. Further information is available from him at the Centre for Thinking Skills at the West London Institute.

THEME 2 Part 8

**Fisher R. (1994) *Philosophy through art* .
SAPERE Journal, Vol. 1, No. 8 pp. 7-10**

This article was the outcome of work in schools and with an adult group using works of art reproduced from the author's Active Art: primary art programme Picture Pack (Simon & Schuster 1994) as a stimulus for philosophical discussion about art in a community of enquiry.

Philosophy through Art

I never do a painting as a work of art. All of them are researches. I search constantly...

Picasso

Philosophy through Art can be said to rest on two main principles. First that art requires thinking through. As Kant said, art is 'a representation of the imagination which induces much thought', and to be fully appreciated art requires activity of thought. Secondly art can help us to think better through being a focus for the enquiring mind, providing a stimulus for research and philosophical enquiry.

Through sensory appeal it invites thoughtful attention and the making of human connections. Art requires us to make a personal response. Art connects us to another life, that of the artist, and sometimes to another culture. Art challenges our feelings and judgements. A work of art also contains ideas, concepts, reasons, problems and questions. The meanings we make from a work of art are personal, but they can be shared. This sharing of perceptions in a group or community of enquiry can help us to refine our understanding, to think with more critical and creative insight. We can see more when we are helped to see through the eyes and work of others.

A work of art presents an intellectual challenge. It exercises the mind through offering us a game of speculation and ambiguity - a philosophical puzzle. Art offers the mind something to work on. It has been created to hold our attention, and encourages us to make rich human connections. Among these connections may be social themes, existential questions, puzzling forms and structures, personal anxieties and insights, historical cultural patterns. Art has emotional resonance, it appeals to feelings, to moods, and to responses that are difficult to capture in words. We are presented with gestures that are at once expressive and mute. Art is problematical because it has no words (other than a title). But we can supply the words through our capacity for critical and creative thinking.

A work of art is created twice - first by the artist and then by the viewer. It is continually being recreated in the eyes and minds of observers. A work of art invites interrogation - but we, the viewers, are also the ones who are interrogated. Art can be an opportunity for many kinds of cognition, including the sense of wonder that Aristotle said was the spur to philosophy.

The problem with art is that it is easy to slip into a 'look and see' mindset. We look and believe we see right away what there is to see. We tend to suffer from 'impressionism'. We go by impressions, we are hasty in our approach, we take things in too quickly. As with the television image, which lasts on average three and a half seconds, we come to rely on the ability of the brain to make rapid intuitive impressions. To gain a richer and more philosophical experience of art we need to strive against this natural impulse to categorise our first impressions. We need to slow down, to allow for looking time and thinking time. But how to achieve this?

First choose a work of art you think might be worth looking at for a while. In my Philosophy through Art sessions participants are given a number of works of art to browse through, letting the eye wander (and the mind wonder) until an image is chosen. A rich image, such as Chagall's *I and the Village*, or Van Gogh's *Starry Night*, will repay close observation. Abstract images, such as Kandinsky's *Swinging* can equally feed the eye and the mind (for more images for thinking see the Picture Pack below).

Having chosen an image the following steps may help in using art for philosophical enquiry:

- * take time to look, say 3-5 minutes, go on a mental walk around the picture, pause at significant details, avoid hasty interpretation
- * look from varied perspectives, close-up and further away, odd angles and different points of view, let your mind seek meanings
- * link what you see with what you know, and focus on what you do not know, look at space and negative space (the empty areas)
- * think about the story or stories that may be embedded in the artwork, find words for the images, symbols and ideas
- * ask questions, and let questions emerge, what feelings and thoughts arise from what you see?
- * take notes, mental notes or scribbled notes, what you can see and what cannot be seen, what is curious, what surprises, what interests and what puzzles you?
- * share your questions, comments and responses with others - choose a problem or contestable issue as a focus for dialogue

Philosophy through Art can be an intimate personal experience, a dialogue in the mind. But as Walter Pater warned, we can become 'dwarfed in the narrow chambers of the individual mind'. An investigation of art with others in a community of enquiry can help to extend and enrich our understanding through a shared exploration of meaning. It can for example help us to:

1. think about art, through asking meta-questions such as - 'What is art?' (For Duchamp: "It's art because I say it's art." For Keats, as for the Greeks: "Beauty is truth, truth beauty.") What is beauty? What is truth? In what ways can art help us to reach the truth?
2. think in art, through asking of any artwork - 'What can you see?' What concepts (ideas), processes (techniques) and judgements (designs) does the art contain? Can we translate the visual into the verbal?
3. thinking through art, by asking for example - 'What does this artwork say about life?' In what ways does it connect to our own lives? What symbolic meanings does it have? What story does it tell? What questions or problems does it pose?

Art is a vehicle for understanding, a source of philosophical and spiritual enquiry. According to Wittgenstein 'the true mystery of the world is the visible, not the invisible.' Philosophy through Art provides an opportunity for thinking more about the visible, about art and about life.

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THEME 2 Part 9

**Fisher R. (1995) *Research Day on Philosophy for Children* .
SAPERE Journal, Vol. 1, No. 9. pp. 14-17**

This article reported on one of a series of regular meetings of teacher researchers hosted at West London Institute/Brunel University as part of the author's policy of developing a culture of research on philosophy for children in this country, and to support his funded research project on Philosophy in Primary Schools (PIPS). This project attracted interest from a number of secondary teachers, and was extended to include secondary schools as well as linked organisations such as the Citizenship Foundation.

RESEARCH DAY ON PHILOSOPHY FOR CHILDREN

Robert Fisher

'..... when I woke up the dinosaur was still there.' This is claimed to be the shortest story ever written. But is it a story? It was certainly the starting point for a lively discussion in one of Roger Prentice's philosophy classes with Year 8 children. Roger was sharing a video of this discussion during a Research Day on Philosophy for Children recently held at Brunel University College (formerly West London Institute). During the discussion the question 'What could be the shortest story?' was raised, and ingeniously answered by the students.⁵

Twelve researcher teachers attended the Research Day, which it is hoped will be the first of a series. Their presence was evidence of the slow but steady growth of interest in philosophical enquiry in schools, and they described a rich range of approaches to facilitating philosophical discussion in classes which ranged from nursery to Sixth Form.

The Research Day was part of a research project at the Centre for Thinking Skills, which includes Stories for Thinking (developing resources for philosophical discussion), and Thinking about Thinking (investigating children's ideas about thinking), as well as teacher training courses and support for research in Philosophy for Children (at Masters/M.Phil and PhD levels).

The aim of the day was to begin developing a resource collection of research material related to the teaching of philosophical enquiry in schools, in the form of transcripts of class discussion, tape and video evidence and written accounts of philosophical discussions with children that can be made available to teacher researchers. It is hoped thereby to create a useful resource for research that members of SAPERE may wish to contribute to and that would be made available to them for research purposes. Anyone who can offer materials to share (such as transcripts

⁵ Roger Prentice will show a video of his work in school at the Pfor C Conference on June 17th. If you have evidence of philosophical discussions in schools you would like to share contact: Robert Fisher, Brunel University College, 300 St. Margaret's Road, Twickenham TW11 1PT.

of philosophical discussion with children), or who wishes to have further information about support for research is invited to contact me at the address below.

The Research Day provided evidence that a wide range of stimulus material is being used to generate philosophical discussion in classrooms, from a football named Henry (what questions she wondered would her children ask a football named Henry?), to traditional stories and published resources such as picture books, Lipman novels, and the 'You, Me, Us!' materials published by the Citizenship Foundation. Sometimes a Socratic question, placed symbolically in the centre of the group, was found sufficient to stimulate philosophical discussion, for example: 'Is it wrong to take something that is not yours?'. Or even a chair - what questions would children ask of a chair?

Current issues, such as the Cantona affair, have stimulated lively moral discussion, as of course have questions that arise spontaneously from children, such as the gem: 'How do you know who you are if someone calls you a different name?' New approaches are being tried, such as using excerpts from 'Sophie's World' with 8/9 year olds to stimulate philosophical discussion, and many teachers are using elements of curriculum work, such as a discussion of democracy in a topic on the Greeks, as a stimulus for a Community of Enquiry.

Teachers are using the Community of Enquiry to encourage their children to think carefully about the kinds of question they are asking, for example by asking them to consider: Is that a philosophical question or not? and What is a philosophical question? What kinds of question are not philosophical? Can all questions be in some sense philosophical? Children are being encouraged to think about thinking, for example by mapping the Concept of Thought.

Don Rowe, director of the Citizenship Foundation, spoke of the value of accelerating thinking in any discussion through the teacher reflecting back to the group particular insights made by individuals. Don's research illustrates the way moral reasoning seems to go through a number of stages, from egocentric reasoning, to a consideration of the effects of decisions and actions on other individuals, to a reasoned concern about

effects on groups and the community. One strategy he uses is to get children to seek and list reasons, and then to consider which is better reason. His research suggests however that there is a more powerful determinant of action than reason, namely the ability and disposition to empathise with others.

Indeed a theme running through the day was the expressed aim to link a growth in cognitive awareness with growth of empathy, so as to develop through Community of Enquiry children who are critical, creative and caring. Learning to reason was *not seen to be enough*. If there was one consensual message it was that true learning was best fostered through the development of mind, consciousness and conscience. And a Community of Enquiry in the classroom was seen as the best means for developing these skills and qualities so necessary for learning and for life.

Evidence is being gathered of the effects of transfer of the skills of enquiry and reasoning to other areas of the curriculum. Researchers spoke of evidence of transfer in science, in religious education, and through creative response in English lessons.

Various strategies for introducing philosophical discussion into schools included a Community of Enquiry approach to curriculum lessons, Philosophy Clubs, and having a Thought for the Day to discuss at the start of each day. A secondary school holds a Philosophy Week, and a teacher from the school is looking at the possibility of creating a GNVQ in Problem Solving through philosophical enquiry. An infant teacher saw philosophy as an integrating factor in the curriculum, and pointed out the value of developing a whole school approach to philosophical enquiry. Philosophical enquiry was seen as offering extension for the most able, and enrichment for all children; and teachers spoke of ways in which a Community of Enquiry could provide opportunities for children with learning difficulties to have a voice and the chance to make valuable contributions to the thinking of the group.

One junior teacher saw feedback and review as an essential element in any enquiry. She gave the children in her group opportunities for both spoken and written evaluation of their discussions. In a sense each time we create a community of enquiry we are involved in research, and we all

need some thinking time to reflect on that key question in all research -
'What have we learnt?'

Meeting as a community of researchers is a sure way of encouraging one to reflect on and develop one's own thinking about teaching, and illustrates the theme of Peter Abbs' keynote talk at the conference on Philosophy for Children to be held on June 17th, that educational research is a Socratic activity. . . Coming together in a Community of Enquiry to reflect on what we do is of benefit, as we discovered, not only for children in the classroom, but also for ourselves as teachers and researchers. We all need time to think, and to have our thinking helped by the chance to think and discuss with others.

THEME 2 Part 10

Fisher R. (1995) Teaching Children to Learn.

Stanley Thornes

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This book was published as a practical guide for primary and secondary teachers to teaching strategies that encourage active and thoughtful learning. The book was written in response to a number of requests from teachers to develop further the themes in Teaching Children to Think (1990), in particular to provide a framework for developing teaching and learning policies across the curriculum, including the use of philosophical discussion.

Teaching Children to Learn

Robert Fisher

STANLEY THORNES

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Introduction

I am still learning.
Motto of Michaelangelo

All human beings have a basic right to the full development of their minds and of their capacity for learning. There is a growing realisation that the development of individuals and of communities depends on education, and on the quality of teaching and learning. The needs of individuals and the needs of society meet in the need to develop lifelong and autonomous learners, students who value learning as an empowering activity, who want to learn independently and who have self-determination, self-direction and self-respect. We need to develop students who can effectively participate in society and meet the challenge of rapid social change. For teachers the challenge is – how do we foster the learning that will help achieve these goals?

In recent years there has been a world-wide explosion of interest into ways of developing thinking and learning. Research in and development of cognitive education is progressing rapidly in many countries. This book does not set out to be a comprehensive review of all the research into teaching children to learn. Rather it is intended to serve as a practical guide to ways of teaching that have been shown to develop effective learning.

Successful learners not only have a lot of knowledge, they also know how to learn. Research from many countries shows that certain teaching strategies are common to classrooms where effective learning takes place. We are now able to identify some of the kinds of teaching that will best help children to learn.

This book describes ten simple but powerful teaching strategies most closely linked to success in learning. These strategies can be applied to any field of learning, and are the processes most likely to achieve the goals of independent and effective learning. The ten teaching strategies that make up the chapters of this book aim to foster the expansion of thinking and learning throughout the curriculum. These are:

1 Thinking to learn

Learning is best developed through a ‘thinking skills’ approach, which aims to teach children not only what to learn but how to learn. This means offering challenge to thinking, and giving time for thinking, to students in all areas of their learning.

2 Questioning

A characteristic of effective learners is that they ask questions – of themselves and of others. An enquiring classroom will generate questions and

encourage students to develop their own questions.

3 Planning

Research shows that those successful in any field tend to spend more time at the planning stage. For children this means they need to know the value of planning, the skills of planning and to develop dispositions to follow a 'plan-do-review' process of learning.

4 Discussing

Children need to articulate their thinking and learning. Good teachers encourage interpretative discussion. They utilise 'think-pair-share', allowing individual thinking time, discussion with a partner, and then group or class discussion, creating in the classroom a community of enquiry.

5 Cognitive mapping

Concept mapping, also called 'mind mapping', helps children to articulate their thinking, converting the verbal into the visually memorable. Mapping helps children organise what they know, and to create new patterns of understanding.

6 Divergent thinking

All learning should allow for some personal expression and individual variation. We value what we have made our own. Divergent thinking means offering choices, encouraging individual responsibility and a creative response to learning.

7 Co-operative learning

Learning with a partner, sometimes called 'peer tutoring' or with a group can extend opportunities both for learning from and for teaching others. Children can benefit from working with less able, with more able and with similar-ability peers.

8 Coaching

Children need help in fulfilling their potential as thinkers and learners. In learning how to learn children need teaching that includes cognitive coaching. Coaching can help to provide the cognitive structures that turn teaching into learning.

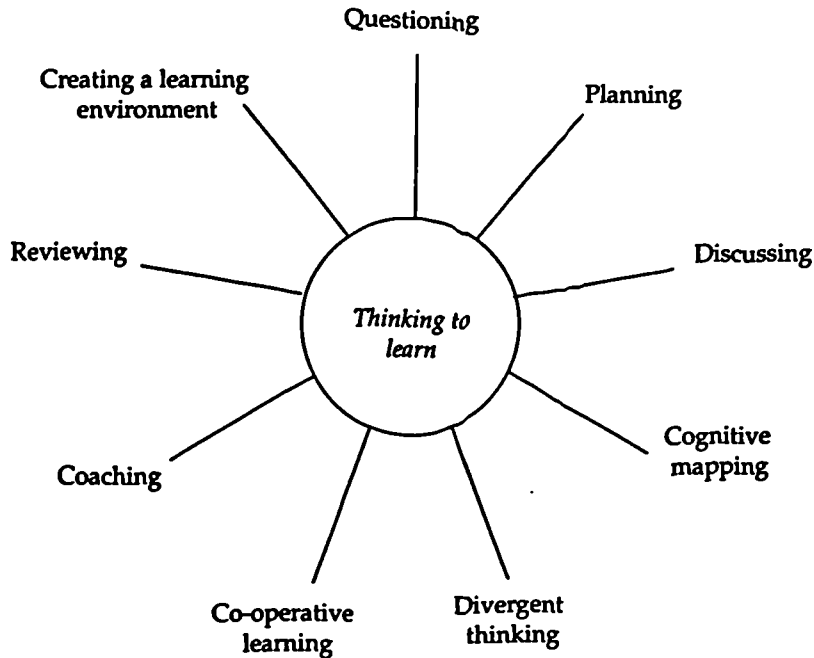
9 Reviewing

Children need time to review what they have done, to assess what they have learnt, and to draw out lessons or targets for the future. They also need positive feedback when it is honestly given and deserved. Feedback, and feedforward, make for future success.

10 Creating a learning community

Children need support for learning, from their environment at school, at home, and in the community. What are the characteristics of powerful An

An overview chart



environments for teaching and learning? How do you create a learning community?

Included in each chapter are a number of tasks which are listed on the next page. These offer ways to explore the themes through teaching and learning activities with children. References are included at the end of each chapter and suggestions for further reading are given at the end of the book.

Teaching Children to Learn is not a recipe book that supplies easy answers. It seeks to offer a framework for a policy of active learning for any community, classroom or school. The process of improving teaching and learning, of developing the curriculum and assessing children's progress is a process of enquiry and research. If helping students to become more effective thinkers and learners is a valid goal of education then this is a research project which involves us all.

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1 Thinking to learn

How a thinking curriculum helps develop intelligence and learning

The basic ideas that lie at the heart of all disciplines are as simple as they are powerful. It is only when such ideas are put in formalised terms ... that they are out of reach of the young child

Jerome Bruner

Isn't all education about helping us to think? Isn't that what we have a brain for?
Child, aged ten

Young children are powerful learners. They begin communicating with their mothers from birth by using their body language in a dance of gestures and smiles. Some researchers suggest that this communicating and learning process begins even earlier, in the womb. Pregnant women, aiming to maximise the learning potential of their child, can begin by talking, reading, singing and playing favourite music to their unborn baby. Many who do so report feeling unexpected responses!

From an early age, the thinking child learns to master the most demanding of learning tasks – the acquisition of language. Children bring into the world an amazing strength of curiosity, an elasticity of thought, and an ability to ask and respond to deep and challenging questions, like these from four-year olds: 'Why do people die?', 'What holds up the sky?', 'How does an oak tree fit inside an acorn?' This early curiosity often withers with the effects of ageing and schooling. As one child said: 'I like school. You don't have to think. They tell you what to do.' Keeping a child's early questioning spirit alive can be one of the keys to success in learning. So how do you do it? How do you encourage a thinking child?

One way is to introduce the child to complex and abstract ideas. This can begin at an early age. A surgeon, who was also a caring father, was keen to develop the learning skills of his young son. The doctor specialised in brain surgery so he decided to share his enthusiasm and knowledge with his three-year old. First, he named parts of the brain, pointing to his head, and then drew large simple coloured pictures. Soon the young boy could identify the cerebellum and the cortex, and was saying to visitors in a quizzical way: 'How's your head?' By the age of four, he had a better knowledge of parts of the brain than most adults, simply because the topic had been presented to him in a sophisticated, but simple, way by an enthusiastic adult.

All children are born with potential, and we cannot be sure of the learning limits of any child. Many children, however, including the very able and the 'strugglers', fail to fulfil their potential. The possible causes of

2 Teaching Children to Learn

educational failure and frustration are varied and often difficult to diagnose. Many, however, stem from what could be called 'cognitive confusion'.

Children suffer cognitive confusion when confronted with messages and demands which seem to make no sense. They are told to make a journey but they have no map. Children become confused and fail because of two broad factors:

- they cannot overcome blocks to learning
- they have not learnt how to learn.

Children need help to achieve their potential and to overcome the blocks to learning – the 'I don't know what to do', 'I can't do it' and 'I don't want to do it' responses – and to identify ways in which they can become effective learners – the 'I know what to do', 'I can do it (or at least try to do it)' and 'I want to try' attitudes. One way to begin thinking about learning is to try to identify what some of the blocks to learning might be.

TASK 1

Identifying blocks to learning

What are some of the factors that can block learning?

- 1 Think about your own learning and consider the blocks you have experienced. It may be helpful to consider blocks to learning under three headings:
 - a) factors within yourself – why did you find it hard?
 - b) factors within the learning environment – what did not help you?
 - c) factors within the subject matter of the learning – why was that hard to learn?
- 2 Discuss with children what they find hard to learn, and why they find it hard. Can they identify any of the blocks to their learning?

An 11-year old, encouraged to think about what the blocks to his learning were, identified the following factors:

- in himself *boredom, hunger, sickness, dyslexia (when your brain doesn't work as fast as other people's), tiredness, and lack of interest*
- in the environment *flies buzzing, ink running out, the person next to me disturbing me (smashing my face in), no pen, no paper, no knowledge, and no life*
- in the subject *work is too hard, work is too long, work is illegible, no work to do, no subject (nothing to work on), and work does not interest me.*

All children are 'at potential' in their learning, with the capability of exploring many paths of experience, and of creating new paths to explore – as in the lines of Robert Frost:

*Two roads diverged in a wood, and I –
I took the one less travelled by,
And that has made all the difference.
from 'The Road Not Taken'*

All children, the able, the average and the less able, are also 'at risk'. They

are at risk of being bogged down in lower forms of thinking and of endlessly repetitive experience; of not seeing new paths; of not knowing how to travel thoughtfully; and of missing opportunities to explore fresh avenues of knowledge and experience. A good deal of research has gone into examining the differences between successful and less successful learners. What does this research suggest are the best ways of helping a child think and learn more effectively?

Traditionally there have been two approaches to teaching thinking and learning skills. One of these is to develop a specific programme to teach children thinking skills. The other approach is to teach thinking and learning skills through all areas of the curriculum. Let us look at these two approaches in more detail.

A specific programme ...?

In the past, specific subjects have been identified as those that will develop the ability to learn. Latin was once said to be such a subject, but research in the 1920s by Thorndike found that pupils studying Latin showed no measurable cognitive advantages over similar sets of students not studying Latin. There was no transfer from the rigours of learning Latin grammar into higher levels of thinking in other subjects. Pupils who learnt Latin became good at Latin, and also knowledgeable about grammar, Roman history and the roots of several European languages, but they did not become better thinkers and learners in any general sense.

Mathematicians have claimed that mathematics is the true foundation for logic and good reasoning, but there is no evidence that mathematicians are better thinkers and learners than others in any general sense. Claims have been made that the computer programme LOGO can provide the cognitive tools for problem-solving,¹ but there is little evidence that such skills transfer to other areas of learning. Mathematics reflects an important aspect of intelligence, but not all the modes needed for effective thinking. The same may be said for teaching the formal rules of logic. But what of science? Is that not the queen of subjects, as it includes mathematics, logic and all forms of thinking about the real world?

Scientific method underpins much of modern progress, and recent research into science education suggests that children's general cognitive development can be enhanced through a particular approach to science education. This research is called the Cognitive Acceleration through Science Education project (CASE).² This aims to help students of 11–14 years to draw out certain key scientific principles such as fair testing, probability and classification, by focusing on these in the discussion of scientific experiments. This drawing out of the principles that underlies scientific reasoning – the key concepts of rational investigation, helps students to transfer these principles into other areas of learning. Research shows that general levels of success can be raised through specific programmes aimed at developing children's thinking and learning skills.

Specific programmes aimed at developing thinking skills include:

4 Teaching Children to Learn

- creative thinking courses, such as Edward de Bono's CoRT materials (see page 00)
- philosophy programmes, such as those devised by Matthew Lipman (see pages 00)
- instrumental enrichment (IE) programmes devised by Reuven Feuerstein and his associates (see page 00).

Over 200 such programmes have been developed (mainly in America). But the big question remains: Do the skills they aim to develop improve the student's ability to think and learn? The evidence for this is positive, but rather thin. What the evidence does show is that teachers who are enthusiastic and well trained in a programme produce good results. Teachers who are less keen and less certain about the value of what they are doing produce variable results. The message from research seems to be that programmes focusing on developing thinking skills can work, and, in the hands of good teachers, do work. They show that you can teach children to think and reason more effectively and bring greater success in learning.

...or thinking across the curriculum?

Another approach is to infuse the teaching of thinking skills into all aspects of the curriculum. This is achieved through involving children in active learning situations that extend their higher order thinking processes. In developing thinking across the curriculum, two of the questions that need to be asked are as follows.

- What are the higher forms of thinking that students should be engaged in?
- What learning activities or approaches will develop the higher order thinking?

According to research by Bloom,³ lower levels of thinking involve knowledge (knowing the facts), comprehension (understanding the facts), and application (applying the facts). Higher levels involve analysis (taking the facts apart), synthesis (creating something new from the facts), and finally evaluation (evaluating the knowledge). These levels are said to represent the growing complexity and challenge to a child's thinking about any particular topic (see page 18).

The learning child is a thinking child. Successful learning involves helping children to move on to higher levels of thinking. These higher levels are characterised by what has been called 'metacognitive control'. Thinking can be seen as an information-processing capacity that involves input, output and control. It is through the exercise of control that higher levels of thinking can be developed. This process can be set out as in Figure 1.1.

The task on the following page, Processing information, illustrates one aspect of our information-processing capacity.

TASK 2**Processing information**

- 1 Look for about ten seconds at this line of numbers, cover them and see how many you can remember by writing them down:

1 0 1 0 0 1 0 0 1 1 0 1 0 0 1

- 2 How successful were you at remembering (processing the information)?
- 3 What strategy did you use to try to remember the information?
- 4 What helps us to remember and learn things by processing information?
- 5 Try this task with children. Discuss what helps them to remember.

Would practice on similar tasks improve children's ability to process this kind of information?

Think about the ways in which the mind can try to process into the memory such information. The mind tends to remember more when it can link units of meaning into patterns. A famous psychological study showed that the human mind can recall about seven (plus or minus two) unrelated items of knowledge.⁴ Memory can of course be trained, for example, by making patterns out of the information given, and repeating these patterns until they become internalised as long-term memories. These patterns can be processed in different ways by the human brain. In what ways do you prefer to process information:

- verbally *through listening and saying or repeating the information*
- visually *through seeing visual patterns or pictures 'in the mind's eye'*
- logically *through seeing a pattern of logical or mathematical relations*
- physically *through physical representation or bodily gesture*
- musically *through melody, rhythm or musical association*
- personally *through linking information to personal experiences or memories*
- socially *through learning with and from others, sharing a task?*

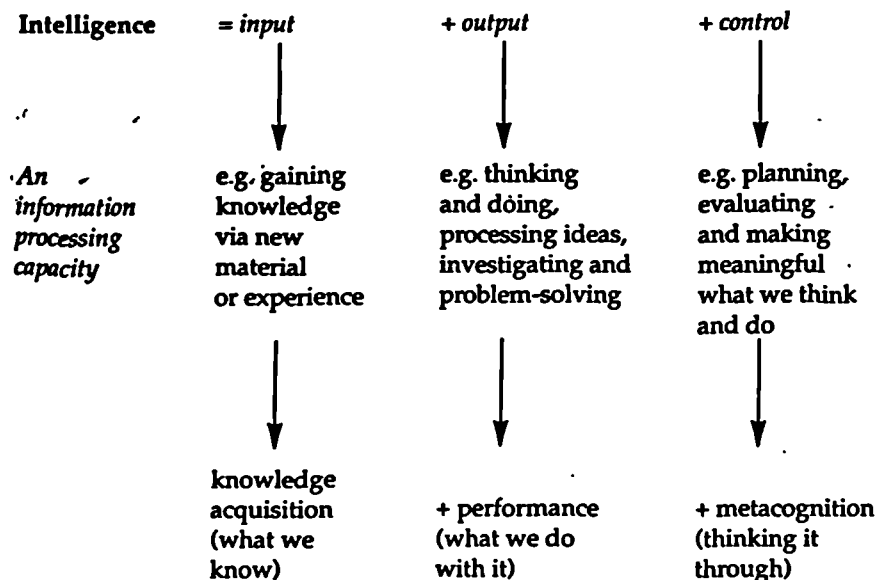


Figure 1.1 Intelligence as an information processing capacity

Humans are unique in their ability to process information through these different facets of their intelligence. Furthermore, human learning is most effective when it can bring these different 'frames of mind' into play. The seven different aspects of intelligence identified by Howard Gardner⁵ and other researchers can be developed in the following ways.

Linguistic or verbal Intelligence

We know from brain studies that specific areas of the brain are responsible for different aspects of language use. The link between language and thought has been the focus of much research and debate. Does thought, as Piaget taught, precede language, or, as Vygotsky argued, is language the vehicle for thought? Thinking involves the use of words and concepts, and cognitive development is closely linked to conceptual development. One way of helping children to develop their thinking is to help them to pattern or map out their concepts and ideas. Concept mapping (page 57 ff) is one of a number of strategies that can help to enhance children's learning.

There are a various other ways in which the child's linguistic experience can be enriched, for example, by:

- reporting and explaining their news and views
- giving instructions on how to do things
- verbal argument
- doing or creating crosswords and word puzzles
- letter writing
- information finding, from newspapers, brochures, books etc.
- reading and writing poetry
- writing their own journals.

Creating their own journal or magazine can involve many aspects of language experience. Groups of children can contribute to one 'publication', or produce their own personal publications. At the age of ten, T. S. Eliot created a magazine called *Fireside*. In a three-day period during the Christmas holidays he produced eight issues. Each one included poems, adventure stories, news, gossip and humour. In his childhood efforts lay the seeds of future genius.

Why not try to create your own journal or magazine?

TASK 3

Creating a magazine

This can be a task for a child, or child and adult, or adults.

- 1 Create your own magazine.
- 2 Identify a purpose and audience for your publication.
- 3 Plan what it could include.
- 4 Think of a title, and how it will be put together.
Questions beginning, Who ...? What ...? Why ...? When ...? Where ...?
How ...?, may help with planning.
- 5 Use your linguistic intelligence – get publishing!

Visual/spatial Intelligence

Evidence from brain research shows the left hemisphere is dominant in processing language, while the right hemisphere is crucial to visual and spatial processing. Visual spatial intelligence is needed for all forms of problem-solving that require visualising objects and patterns. The making and understanding of maps is an example of the use of visual thinking. Activities that can help develop visual thinking include:

- map-reading and navigating journeys
- creating maps, e.g. of the neighbourhood or of imaginary worlds
- planning gardens, parks and recreation areas
- using diagrams and plans, e.g. in making models and construction toys
- designing routes or model layouts
- making a visual map of any given information, e.g. a recipe.

Goethe once said that we should talk less and draw more. Picasso completed 170 notebooks of sketches and experimental ideas which he regarded as essential raw material for his finished work. Drawing involves many thinking skills, as does the critical appraisal of works of art and design.⁶ Other forms of spatial problem-solving include visualising objects 'in the mind's eye' (Can you see them from different angles?), and playing visual strategy games like draughts, chess and Othello. Some of us are visual learners, or visiles, and learn best through visual means, but all aspects of learning can benefit from practice in visual thinking.

TASK 4

Visual thinking – draw from your 'mind's eye'

Choose a picture that interests you, such as a magazine picture, photo or art print.

- 1 Study it carefully using your eyes and your mind.
- 2 Try to visualise the picture in your 'mind's eye'.
- 3 Then hide the picture and draw it from memory, trying to recall it as accurately as possible.
- 4 Compare your drawing with the original. How could it be improved?
- 5 How could you improve your visual thinking?

Logical-mathematical Intelligence

Logical-mathematical intelligence is what is involved in scientific thinking. Along with language (verbal reasoning), it is what is usually measured in IQ tests. The development of this kind of intelligence has been carefully researched by Piaget and other psychologists. Brain research shows that some areas of the brain play a more prominent part in mathematical calculation than others. But the actual mechanism which accounts for some being brilliant at mathematics is not yet properly understood. We do know, however, the sorts of activities which will strengthen this

kind of intelligence. These include the following:

- budgeting – keeping personal and family accounts
- planning journeys and outings
- practising mental mathematics, e.g. calculating amounts spent and change given
- calculating odds, chances and probabilities
- estimating quantities
- managing and planning time
- making timetables
- solving logical puzzles and problems.

One of the characteristics of logical-mathematical intelligence is the ability to see patterns and relations between things. The next task is an example of a way in which pattern-making can be encouraged.

TASK 5

Number patterns

- 1 Choose ten or twelve random numbers and write them down.
- 2 Study them and see what links you can find between any of the numbers.
- 3 What patterns can you make with them, e.g. by putting them in order, by making sums or sets from them – such as odds, evens, or primes?
- 4 What different patterns can you find?

(For more mathematical activities, suitable for 7–12-year olds, see Fisher R. and Vince A., *Investigating Maths*, Books 1–4, published by Simon & Schuster.)

Physical Intelligence

Control of movement is localised in the motor cortex of the brain, with each hemisphere controlling movement on the opposite side of the body. For example, right-handers control is usually in the left hemisphere. Many activities require physical intelligence to solve problems and achieve desired results. Carrying out a mime sequence or hitting a tennis ball may seem very different from solving a mathematical equation. Yet the ability to express emotion, as in dance; play a game, as in sport; or make a model, as in craft, design and technology, all involve physical problem-solving. This sort of 'hands on' experience, wanting to solve problems physically is, as in all intelligences, more strongly developed in some people than in others. But physical co-ordination has its corollary in mental co-ordination, and all physical tasks can benefit from a mindful approach.⁷

Some activities that can help develop physical intelligence, and physical problem-solving capacities are:

- developing knowledge and skill in a chosen sport
- craft activity such as carpentry, clothes making, model making
- mastery of a physical discipline, e.g. dancing, martial art or gymnastics
- cookery, e.g. cake making and decorating

- 3-D puzzles, e.g. Rubik's cube, jigsaws
- machine maintenance, e.g. assembling, cleaning and maintaining mechanical appliances such as computer, bicycle or sewing machine.

The following task requires the application of physical intelligence.

TASK 6

Role playing

- 1 Choose a topic that you are currently reading, researching or learning about.
- 2 Think how to act, mime or role play some aspect of your learning experience, for example, mime a character from a reading book, television programme, historical period or foreign place.

Musical Intelligence

Musical skill is another universal form of intelligence. Studies of human development suggest that all children have some 'raw' musical ability. This natural response to rhythm and melody may have its genesis in the rhythm of the mother's heartbeat and in the child's early attempts to understand the melodic pitch of speech sounds. Certain parts of the brain play important roles in the perception and production of music, largely in the right hemisphere. This intelligence can be highly developed in certain individuals. Yehudi Menuhin was smuggled in to hear orchestral concerts when he was three by his parents. The young boy was so entranced by the sound of the violin that he wanted one for his birthday – and a teacher. He got both, and by the time he was ten he was an international performer.

All children can be helped to develop their musical intelligence, and there is evidence that training in reading music can help development in reading and mathematics. The following activities can help stimulate musical intelligence:

- making music using a chosen instrument
- repeating songs heard clapping or beating time to music
- recognising and identifying tunes
- moving in time to music
- selecting appropriate music, e.g. background music to illustrate a story or poem.

TASK 7

Writing a song

- 1 Make up a song about something you are reading or learning.
- 2 Try writing a poem or rap and set it to your own music, or chosen musical melody and accompaniment.

Interpersonal Intelligence

Interpersonal intelligence is the ability to understand others. As one child put it, 'I can't stand them, but I can *understand* them'. Piaget noted that one of the factors that limited the intelligence of young children was their egocentricity, namely the belief that the world revolves around them and their perceptions. Gradually the child begins to notice differences in others, in their moods, temperaments, motivations and intentions. Interpersonal intelligence develops from this basic capacity, and shows itself in the growth of social skills and with the ability to empathise with and learn from others.

Two key factors relate to the development of interpersonal intelligence in humans. One is the prolonged period of childhood, including close attachment to the mother. That the mother has a crucial role to play, in influencing the educational progress of children, has been borne out in many studies. The second factor is the importance for humans of social interaction. As Vygotsky remarked: 'We first learn with others what later we can do by ourselves.' All children benefit from opportunities of learning with others, in pairs and small groups, as well as by teaching others. Part of what they learn by working and playing with others are those interpersonal skills that make for success in life, including knowing how to co-operate with, learn from and lead others.

Opportunities to develop interpersonal skills include:

- listening to others through narratives, stories, poems, information and argument
- speaking to others as above, through teaching others, e.g. showing and telling
- helping others learn/solve problems
- caring for younger children or others who need help or attention
- co-operating in a team, discussing and contributing to a joint effort.

The following activity utilises aspects of interpersonal intelligence.

TASK 8

Making a presentation

- 1 Prepare a presentation to others which includes an explanation about what you are learning, e.g. a hobby or favourite pastime.
- 2 Show a visual element to illustrate your explanation.
- 3 Encourage the participation of others, e.g. by inviting questions or by including an activity.

Metacognitive Intelligence

Metacognition (also called intrapersonal intelligence) is probably the most important aspect of human intelligence, for it is linked to the processing of all other forms of intelligence. It is the access we have to our own thoughts and emotions, to what we think and feel, and why we do things. It is at the heart of the Delphic injunction: 'Know thyself'.

From an early age, children have some understanding of the mind. By the age of three, they can use the terms 'know', 'think' and 'guess' to refer to mental states. By four, they understand what 'remember' and 'forget' means. By five, they are beginning to distinguish appearance and reality, and can answer the question: 'Is it real or not real?' After five, they develop metacognition through understanding more about the mind and brain, and the different elements of personality. They know more about what it is to understand something, what they believe and how beliefs can change. This growth of metacognitive knowledge is a key factor in the success of learning – in knowing how to plan, predict, remember, and find out.

These activities can help in developing metacognitive awareness:

- keeping a personal diary or journal
- planning how to use time
- predicting what you will be able to do well or have difficulty with
- discussing and understanding your feelings and moods
- recognising who you are like or unlike (see below)
- setting and achieving personal goals
- reviewing and evaluating what you have done.

The following task can encourage metacognitive reflection.

TASK 9

Thinking and writing – about me

Get some paper or your own book and a pen or pencil.

- 1 Think about yourself, or an area of your learning, and write under the following headings.
 - Who am I?
 - What I am good at?
 - What I am not good at?
 - What do I find interesting?
 - What do I want to achieve?You might want to show this to others, or keep it to yourself!
- 2 If this description was read to your friends, without naming you, would they recognise you?
- 3 Ask your children to try this exercise.

What does research into learning tell us?

Research into learning is rather like the old story of the blind men and the elephant. Each feels one part of the animal and thinks it is the whole animal. The following represents some of the main research findings from the last 60 years.

Piaget

Piaget emphasised the view that thinking was an activity. We should allow children to have *thinking* time. This was highlighted for me when I was

helping a group of children to build some model bridges. One girl sat in the corner doing nothing while the rest were busily engaged on drawing, talking and assembling their bridges. 'Come on,' I said, 'get busy.' The girl looked pained: 'Can't I have time to think?' she asked. I then realised that although she was sitting there she was also being active – thinking. The trouble with thinking is that you cannot see it, which is why teachers often look for evidence of 'business'. What Paiget said we should look for are signs of 'cognitive conflict'. To encourage children to higher levels of thinking we need to challenge their ideas, and offer what Yeats called 'the fascination of what's difficult'.

Bruner

Bruner's research emphasised the role of the teacher. It was not enough simply to let children think, work and play on their own. They need someone to 'scaffold' their learning, to lead them on to higher levels. One way of doing this is to help children to focus on the key concepts of what they are learning, and then revisit these concepts again and again. He likened this process to a spiral, coming back on itself, but at higher levels. The 'spiral curriculum' means that, if you wish to teach a child algebra at fourteen, you do best to begin at seven.

Vygotsky

The Russian psychologist, Vygotsky, found that social interaction was the key to success in learning. We learn more in collaboration with others – parents, other children and adults – than we can by ourselves. He rejected the view that intelligence was fixed. We all have what he called a 'zone of proximal development', referring to our potential for learning, given assistance by others. We never know for sure how far this boundary stretches. The role of the teacher is to try to realise this potential in students, and the main means of achieving that is through the use of language.

Linguistic theorists

Research by linguistic theorists has emphasised the value of talk in the development of thinking. We need to give children the opportunity to articulate their ideas, through talk and writing. In a sense we do not know what we think until we see what we say. The act of creating and communicating meaning forces us to think and re-think what we want to say, just as many teachers find that to get to know a subject really well you need to teach it. Or as one child put it: 'I didn't know I was going to say that until I said it!'

Curriculum research

Curriculum researchers have explored the way children construct their own theories. Gone is the view that children are blank slates to write on, or empty vessels to fill. From an early age they are trying to make sense of the world, and constructing their own theories about how it works and their

own place in the scheme of things. Research in mathematics and in science shows that children draw their own conclusions and ideas from what they see and do. Sometimes their theories are strange and ill-founded. As a child I was convinced that, if you took a bulb out of a light socket, the electricity would come flooding out. The trouble with wrong ideas is that they are very difficult to give up when they are your own. Even now my fears return whenever I am about to change a light bulb! Learning occurs when there is a change in what we think, and good teaching should be about helping children to construct and to re-construct their ideas.

Cognitive research

Cognitive research has focused attention on the complex nature of thinking. The mind has been likened to a community of intelligences. We have what Ormstein calls a 'multi-mind'. Researchers have found that we all have a different thinking and learning style. Some of us are 'audiles', who prefer to hear information, some are 'visiles', who prefer to see their information presented in visual form, and others are 'tactiles', who prefer concrete hands-on experience. Some prefer to work with others, with a partner or small group, and some prefer to work alone. The implication of these findings is that no one teaching style suits all students. What we need are a variety of strategies that can activate different facets of a child's intelligence.⁸

Psychologists

Psychological research has emphasised the key role of *self-esteem*, and our sense of mastery over what we think and do. We are better motivated when we think we are going to do well and when we are confident in our abilities, as in the old adage: 'Success comes in cans not can'ts'. We need to build a sense of 'can do' in our children. One way of doing this is by helping the child recognise their own achievements, increasing their awareness of themselves as learners. Another is to communicate to children your high, but realistic, expectations of what they can achieve (for more on self-esteem and mastery learning see Chapter 9).

Philosophers

Philosophy begins in wonder. Children share with the great philosophers a natural sense of wonder about the world. If they have around them people who can share in this wonder they are lucky indeed. Through the use of reason, they can translate their curiosity into ideas, theories and hypotheses about the way the world works. For the philosopher, Karl Popper, the prime characteristic of humans is that they are problem solvers, and of problems there is no end. Children will need to be problem seekers and problem solvers. For Popper, the form of human organisation best fitted to solve problems is the 'open society' – a community of enquiry in which all can share (see p.00). The old schools of philosophy in Greece were places in which any topic or problem could be discussed, a useful model to offer the children we teach.

14 Teaching Children to Learn

TASK 10

My theories of learning

Our ideas about learning come partly from our experience as learners and teachers, and partly from the example and ideas of others.

- 1 What has influenced you and your ideas about learning?
- 2 What are your theories about learning? Where do they come from?
- 3 Try to summarise your ideas about learning (in about 500 words), indicating what has influenced those ideas.

Summary

The thinking child is a learning child. From an early age, children can be introduced to complex ways of thinking, provided they are presented in simple and imaginative ways. Children are both 'at potential' and 'at risk' in their learning. If children are to realise their potential and avoid cognitive confusion, they need to develop thinking and learning skills. One way of helping them is to offer a specific thinking skills programme, another is to infuse thinking across the curriculum. Children pattern information in a variety of ways, and these different aspects of intelligence need to be developed through a thinking curriculum.

References

- 1 See Seymour Papert's (1980) *Mindstorms*, Basic Books, New York.
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- 3 Bloom, B. and Krathwohl, D. R. (1956) *Taxonomy of Educational Objectives, Handbook 1: Cognitive Domain*, David McKay, New York.
- 4 The magic number seven, plus or minus two.
- 5 Howard Gardner's books include: (1983) *Frames of Mind: A Theory of Multiple Intelligence*; (1985) *The Mind's New Science: A History of the Cognitive Revolution*; (1988) *The Unschooled Mind*; (1982) *Art, Mind and Brain: A Cognitive Approach to Creativity*; and (1993) *Creating Minds*, Basic Books, New York.
- 6 Useful books linking art with thinking include:
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Fisher, R. (1994) *Active Art: A Primary Art Course*, Simon & Schuster, Hemel Hempstead.
- 7 See Fisher, R. and Alldridge, D. (1994) *Active PE, Books 1 and 2*, Simon & Schuster, Hemel Hempstead.
- 8 For more on the cognitive aspects of education see Fisher, R. (1990) *Teaching Children to Think*, Simon & Schuster, Hemel Hempstead.

2 Questioning

How questions can help develop thinking and learning

He that questioneth much shall learn much, and content much; but especially if he apply his questions to the skill of the person whom he asketh; for he shall give them occasion to please themselves in speaking and himself shall continually gather knowledge.

Sir Francis Bacon (1561–1626)

Its harder asking questions than giving answers.

Child, aged seven

When someone asked Isidor Rabi, a Nobel Prize winning nuclear physicist, how he became a physicist he told the story of his mother who, when he came home from school, did not ask the usual question: 'So what did you learn today?' Instead she asked: 'Izzy, did you ask a good question today?'

It is at home that a child first learns the power of asking questions. One research study found that four-year olds on average took part in 27 conversations per hour with their mothers, with each conversation averaging 16 turns.¹ Half of these conversations were initiated by the children who asked about 26 questions per hour. There was little distinction between working-class and middle-class families noted in the amount, frequency or content of talk. The researchers reported 'passages of intellectual search', episodes of persistent enquiry through conversation, in all types of family. At home, children are usually 'partners in dialogue' with their parents. What then happens to children when they go to school?

The study showed that when these children entered school their conversations fell to ten per hour with teachers, each lasting about eight turns. Teachers initiated most conversations and asked most questions. This, and other studies, show that, apart from speaking less at school than at home, children get fewer turns, ask fewer questions, make fewer requests for information, use less elaborated sentences, express a narrower range of meanings, and use language less often to plan, reflect, discuss or recall past events. There are fewer 'passages of intellectual search'. They are talked at, rather than talked with. This discontinuity between the culture of home and school can lead to educational 'disadvantage'. The ways in which teachers use language, and in particular use questions, can have immediate and long-term effects on children's learning.

Why do teachers ask questions? The common response is that teachers use questions in order to motivate, to test knowledge, and to promote reflection, analysis or enquiry. Questions are supposed to offer intellectual challenge, to encourage students to think. That is the theory. In practice many of the questions teachers use inhibit intellectual activity, and save

students from the effort of having to think. Research, such as the Leeds Project,² shows that most questions teachers use are closed, factual questions with known right answers, making low levels of cognitive demand that do not encourage children to persist in their thinking and learning. An example of this occurred in a classroom when a teacher asked a six-year-old girl drawing a picture of a daffodil: 'What is this flower called?' The answer she received was: 'I think it's called Betty'.

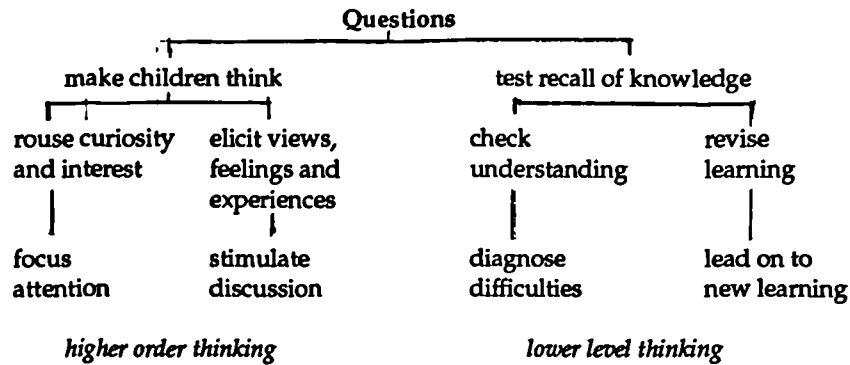


Figure 2.1 Some functions of questions

Teachers ask a lot of questions. Perhaps they ask too many questions. Researchers found that a group of teachers asked on average more than three hundred questions a day. The Oxford Pre-School Research Group,³ which worked with nursery teachers and play-group leaders, found that adults who asked more questions were:

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

The more the children were questioned the less initiative they showed in their responses. Most of the questions recorded in this study were of the closed variety, for example: 'What colour is it?', 'What is it called?', 'Where is it from?' Perhaps one of the lessons from this research is that we should try to ask fewer and better questions.

Asking the right question has been called the essence of teaching in the sense that it can provide a bridge between teaching and learning. Research into what makes schools effective places for learning identifies one common characteristic to be 'intellectually challenging teaching'.⁴ One definition of a good question is that it provides an intellectual challenge. It stimulates what Piaget called the 'cognitive conflict' which may help children move on to a more advanced stage in their development. A good question can provide what Bruner calls the 'scaffolding' to new learning. A good question is like a candle in the dark, shedding light on both truth and

mystery. But not all questions facilitate learning. What differentiates a good question from an unproductive one?

Unproductive questions

A poor question is a dead thing. It leaves thinking where it was. Poor questions may limit, diminish or dismiss thinking. Some examples of unproductive questions are given below.

Stupid questions

These are questions that are thoughtless. They trivialise what is emotionally and intellectually complex. For example, a child whose mother had recently died was asked: 'How do you feel?' A stupid question will often provoke a thoughtless response. When the novelist T. H. White was asked by a doorstep evangelist whether he knew Jehovah, he replied: 'I am Jehovah!'

Too complex questions

These are questions too big or too abstract to be tackled at once. Once, hurrying along a busy street, I was accosted by a man with a clipboard who asked: 'Do you believe in God?' Somewhat taken aback, I replied: 'It depends what you mean by God.' As I moved on he said: 'I'll put you down as "Don't know"'. A teacher began a lesson with the question: 'Why is there pollution?' There was no response from the class. It may have been more productive to have narrowed the focus, to have created a context, and to have moved from the known to the unknown.

Too closed, narrow questions

These are often the 'what-is-the-teacher-thinking?' type of question. When too easy, they can result in the phenomenon of the hit-and-run barrage – 'What is this ...?', 'What is that...?', 'What is the other ...?' When too hard they can result in the teacher-answered question. A teacher once asked her class: 'What is a frog?' Getting no answer she progressively answered the question herself: 'An ... a ... am ... amph ... amphib ... amphibian!'

A major obstacle to thinking is the search for the 'quick-fix' of a single correct answer, the game of 'guessing what is in the teacher's mind'. An example of this is taken from the Leeds Project Research:

- Teacher* What day was it yesterday?
Child 1 Tuesday.
Teacher Was it?
Child 2 Thursday.
Teacher What day is it today?
Child 2 Wednesday.
Teacher Today is What day is today?
Child 1 Wednesday.
Teacher What have we just had this morning? (No response.) What did we have this morning when we came to school?
Pupils Wednesday! Thursday!

There is a place for the quick, closed, fact-finding question of the quiz-type. A memory test can reinforce and remind pupils what they know, and can help them to remember. We all enjoy showing off what we know – when we know the right answer. For specific purposes, like mental arithmetic, low-level closed questions can provide a significant cognitive challenge. The acid test of a question is: Does it provide a worthwhile challenge? In providing challenge, there needs to be a balance between the closed 'quick-fix' questions, and open questions that demand more complex and higher order thinking.

Higher and lower levels of thinking

Bloom's taxonomy can be set out as follows.

Higher order

- *Evaluation*, e.g. 'What do you think about ... criteria to assess or judge...?'
- *Synthesis*, e.g. 'How could we add to ... improve, design or solve ...?'
- *Analysis*, e.g. 'What is the evidence for ... parts or features of ...?'

Lower order

- *Application*, e.g. 'What other examples are there ...?'
- *Comprehension*, e.g. 'What do we mean by ...? Explain ...'
- *Knowledge*, e.g. 'Who ... What ... Where ... When ... How ...?'

According to Bloom's taxonomy of thinking skills, *evaluation*, *synthesis* and *analysis* demand more complex and 'higher' levels of thinking. Questions which ask for *application*, *comprehension* and *knowledge* demand less complex and thus 'lower' levels of thinking. One effective questioning strategy is to ask questions that make increasing cognitive demands on students, to move from simple knowledge/recall questions, through questions that ask for comprehension/explanation, and application, then analysis, synthesis and evaluation. Often this will mean moving from the 'What' and 'How' descriptive question, to the 'Why' and 'What for?' question that asks for a more complex response. A good question fits into a pattern that offers progressive and productive challenge to learning. It offers a model for the sorts of productive question that students can ask of themselves and of others.

Good questions

Research shows that many teachers fall into the trap of asking too many questions – too many closed and low-level questions. We shall get a better learning response from children if we act as follows.

- Ask fewer, but better, questions. Two or three thoughtful questions are better than ten that we have not thought about. Aim for quality, rather than quantity.
- Seek better answers. With fewer questions, we have time to invite more responses, and to extend thinking time. Withhold the rush to judgement.

Work at getting a better response.

- Encourage children to ask more questions. The ability to question is one of the keys to effective learning, and it comes with practice. Value children's questions as much as their answers.

One of the characteristics of a good question is that it avoids the trap of a 'yes' or 'no' response. When one teacher was getting her children to evaluate their work she asked: 'Are you pleased with the way it's worked out?' Later, after listening to a tape of the discussion, she realised her questions required only a 'yes' or 'no' response. Whereas, 'How well do you think it has turned out?' would have invited more.

Examples of open-ended questions, that genuinely invite children to think, include the following.

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

A good question makes the mind buzz. It offers a challenge to thinking; a search for understanding. They are troublesome, rarely rooted in certainty, and invite an open-ended, thoughtful response. They are productive for they generate something new. Examples of such questions could include:

- judging *Is it ever right to steal/tell a lie/kill someone?*
- comparing *In what ways are these two objects/pictures/texts/actions similar? In what ways are they different?*
- evaluating *Which is the better picture/text/object/action ...? Why?*

The best questions provide both challenge and interest. Consider the topic of birds. What questions might arouse students' interest and be a challenge to their thinking? Consider some alternatives.

- What is a bird?
- What do you know about birds?
- How is a bird like a cat?
- If you were born again would you want to be a bird?

TASK 11

Devising good questions

Think of a topic of interest.

- 1 Devise the most *challenging* questions you can about the topic, suitable for your chosen audience. Select which you think are the most *interesting* of

these questions.

- 2 Ask others (your students in groups) to devise questions about your topic.
- 3 Discuss which are the best questions, and why.

A teacher of a class of thirteen-year olds was due to give a lesson in science on gravity. She thought a useful way to start would be to find out what the pupils already knew about the concept. So, to begin the lesson, she wrote on the board the following questions.

- You drop a ball from your hand. It falls. Why?
- You are standing on the surface of the moon. You drop a ball. What happens? Why?

The class were divided into small groups to discuss their ideas about each of the questions, and to record their conclusions. The questions stimulated a variety of explanations, many expressing assumptions in unscientific terms. In response to the first question, one group stated: 'The ball falls because of the air'. Answers that mentioned the key word, 'gravity', provided no insight into the level of real understanding. In response to the second question, another group wrote: 'The ball drops very slowly because the gravity on the moon is much less than on earth'.

The collection of this information took 20 minutes, and the pupils enjoyed the exercise. It was the first time the teacher had used such a questioning strategy, and later commented she 'was amazed by the range of ideas that the pupils came up with'. The act of writing down responses to the questions is a way of making explicit the initial ideas of the students, and provides a reference point against which any development of ideas can be judged. When we are given answers to our questions – whether in written or verbal form – how should we respond?

Thinking time

'What is truth?' said jesting Pilate and would not stay for an answer. When you have asked a question, how long do you wait for an answer? A good answer is worth waiting for. The composer Stravinsky once advised musicians: 'Value your intervals like dollars'. Also, in questioning, we should learn to value silence. Research has shown that some teachers, on average, wait only one second for an answer. If an answer is not forthcoming within a second, teachers tend to interject by repeating or rephrasing the question, asking another question, or another child. When a pupil answers, teachers tend to respond within one second, either with praise, or by asking another question, or with a comment. Rarely, it seems, are students allowed the luxury of a thoughtful silence. We want to keep the conversational ball rolling, but studies show that by increasing thinking time, also called 'wait time', the quality of pupils' responses can be dramatically increased.

How long should we allow for thinking time? Increasing 'wait time' to three seconds can result in significant changes, such as:

- pupils giving longer answers

- more pupils offering to answer
- pupils willing to ask more questions
- pupils' responses becoming more thoughtful and creative.

Strangely, teachers find it very difficult to sustain a longer waiting time. Old habits die hard and the 'scatter-gun' approach of quick-fire questions and answers soon reappears. It is not only pupils who need time to think. There are two elements of thinking time – after the question and after the answer. The two elements are:

- thinking time 1 – the teacher allows three seconds to encourage longer, more thoughtful answers from pupils
- thinking time 2 – the teacher models a thinking response, values complexity and defers judgement.

Allowing silence is, then, a deliberate act by the teacher to encourage a more thoughtful response, as in this example below.

Teacher What makes a good piece of writing?
Child 1 When you write neatly.
Teacher Hmm [pauses].
Child 1 Like it's a good story ... and it's easy to read.
Teacher Ahh ... easy to read. What else ?
Child 2 Well it has to have a good beginning or you don't want to carry on ... I mean it's got to be ... exciting ... make you want to go on reading it.

Questions that can help us focus on the ways we use talking for thinking include the following.

- Who is doing the talking and the thinking?
- Am I allowing enough thinking time (thinking time 1 and 2)?
- Do I support students in their talking and thinking? How?

There are various ways in which pupils can be helped to participate and to make their own meanings. What fuels their response? Different students need differing sorts of stimulus. Often the 'puzzled listener' role will be effective, if it reflects genuine interest and attention to the student's answer. Strategies to support thinking and talking include pause, prompt and praise.

Pausing

Pausing means giving time, thinking time, and opportunities for re-thinking and re-stating an idea. 'Can you explain/Tell us again ...?'

Prompting and probing

Prompting and probing gives verbal encouragement, for example, by 'reflecting back' to check whether we have understood what the student has said. Following the pupil's train of thought and encouraging deeper exploration is sometimes called 'probing'.

Examples of probing questions include:

- Why do you think that ...? How do you know ...?
- Can you tell me more about ...? Can you show me what you mean?
- What if ...? Is it possible that ...?

Sometimes a minimal encouragement will prompt further response – ‘Hmmm’, ‘Umm’, ‘Uh huh’, ‘Yes?’, ‘OK’, ‘I see’, ‘And’.

Non-verbal reinforcement includes eye contact (the eyes are the windows of the soul), facial signals, e.g. smiles, body gestures, (e.g. nodding on rather than nodding off!), and other signals of approval.

Praising

Praise gives positive feedback and is specific and personal. Responses such as: ‘That’s an interesting answer Jan’, ‘Thanks for that answer Pat’, can foster general participation by:

- supporting the hesitant
- rewarding the risk-takers
- valuing every genuine contribution.

One way of valuing and encouraging contributions is to put all ideas and suggestions on display, perhaps with the child’s name next to each contribution as a focus for further discussion, writing or research. The skilful use of questioning can help turn the classroom into a ‘community of enquiry’ in which all are involved

Questioning skills

Kerry⁵ has identified seven questioning skills. These are:

- pitching the language and content level appropriately for the class
- distributing questions around the class (to the shy as well as the ‘stars’)
- prompting and giving clues where necessary
- using pupil’s responses (even incorrect ones) in a positive way
- timing questions and pauses between questions
- making progressively greater cognitive demands through sequences of higher-order questions
- using written questions effectively.

There is a danger, even with skilful questioning, of following a pre-set agenda, and not encouraging student initiative. In adopting a ‘teacherly role’ we can dominate the talk by asking too many questions and imposing our own meaning. One way to avoid excessive teacher control is to actively encourage pupil-to-pupil exchanges. Ways to do this include:

- withholding judgement *responding in a non-evaluative fashion, ask others to respond*
- cueing alternative responses *‘There is no one right answer. What are the alternatives? Who has a different point of view?’*
- inviting student questions *‘Anyone like to ask Pat a question about what she/he has said/done?’*
- allowing for student calling *‘Ali, would you ask someone else what they*

think/what their ideas are?'

- using 'think-pair-share' allowing thinking time, discussing with a partner, then sharing with the group.

Those teachers who ask too many questions tend to discourage students from giving elaborate or thoughtful answers. Those who force on pupils a pattern of repetitive questions – who?, what?, where?, when?, why? – will face pupils who ask fewer questions themselves, give short responses, rarely discuss with peers, volunteer few ideas and show many confusions. What then is to be done? One answer is to use alternatives to questions.

Alternatives to questions

Teachers (including parents and any care-givers) who model thoughtfulness will encourage their children to exhibit more thoughtful behaviour. Teachers who offer their own thoughts and ideas, who speculate, suggest, and hypothesise, will create an environment in which speculation, hypothesis and argument can flourish. As a teacher I would regularly talk to myself, 'thinking aloud', and through this gained not only a useful reputation for eccentricity but also found my pupils more willing to think and talk things through for themselves.

The questions I would ask, as 'think alouds', to model self-regulation of the thinking process might include the following.

- What am I going to do/write/say now?
- What is my problem? What sort of problem is this? Where have I seen this before?
- What am I doing now? What do I need to do? What can I try?
- Who can help me? What do I need? What is the next step?
- How am I doing? How will I do it? How have I done?
- Is there a better way? What alternatives are there? What must I remember?

One researcher wrote: 'Higher order thinking involves imposing meaning, finding structure in apparent disorder.'⁶ Or as one child put it: 'Thinking is talking it through with yourself when you have a problem.'

The following are kinds of 'talking it through' statements that can encourage a more thoughtful response:

- a speculative statement '*Perhaps ...*' – playing '*devil's advocate*' to stimulate response
- a reflective statement '*You seem to be saying that ...*' – to encourage elaboration
- a state-of-mind statement '*I don't quite understand ...*' – to invite further response
- a request for information '*I'd like to hear what you think about*' – to extend discussion
- an invitation to think '*I want you to think carefully about this ...*' – to cue a more thoughtful response, or to invite a question.

Encouraging children to question

If we want pupils to be active and adventurous thinkers we need to encourage them to ask questions. As children become older this becomes less easy. Researchers⁷ found that those children who were asking over 50 per cent of questions at home, were asking under 5 per cent of the questions once they got into school. So how can we encourage pupils to be more active in questioning and seeking after knowledge? Two ways of trying to establish a climate of enquiry are for teachers to:

- model a questioning mind by thinking aloud and asking good questions
- value and provide opportunities for students to ask questions.

When a class of ten-year olds was starting the study of a country the children were put into groups to brainstorm questions on: What do we want to know about our country? The groups were then to share, display and discuss their questions which were to act as stimulus-points for the research project (see Figure 2.1).

In a class of younger children someone had brought in a snail. The teacher could have used the snail simply as an opportunity for 'look and say', but after the usual knowledge/understanding questions: 'Where was it found?', 'What do you know about snails?', 'Where can you find out about snails?', she encouraged the children to ask their own questions. They soon came up with the usual sorts of questions: 'Can they hear?', 'What do they eat?', 'How do they move?' but the one they found most interesting was: 'Do snails love each other?' There was a lively discussion about possible ways to find answers to this question!

If children, themselves, identify what they want to know by asking a question, then they are much more likely to value and remember the answer. Some questions will not be easy to answer. One teacher, when asking children if they had any questions about current news, was asked: 'What is the difference between the ozone layer and the greenhouse effect?' She did not feel able to give a full answer at the time so she gathered a variety of responses from the children, displayed the question in the classroom, involved them in researching an answer and even got in a 'expert' to judge the different answers to the question.

This brings us to another characteristic of questions – like good wine, questions can improve with keeping. Display them, savour them and come back to them. Find some more. Sort them into categories, for example, questions that we can answer, questions that we can find the answer for and questions that cannot be answered.

Discuss with the children the nature of questions. Give them a list of questions and ask them which they think is the best or most interesting question. Discuss good and bad questions. Find out what questions they would like to have answered.

Can the students think of any questions that can never be answered?

Create a poem about questions (see Figure 2.2).

What is the mystery
of the funny
question mark?
How
does
it
happen?
Did
someone
twist
the
long
exclamation mark
so
it
had
a head?
That's how they
found out
a new
meaning
to
this thing.

Do you
under-
stand?

Figure 2.2 Poem by Karen, aged ten: *What is the mystery of the funny question mark?*

TASK 12

Generating questions

Chose a topic, working in groups of two or three. The teacher also brainstorms/devises back-up questions.

- 1 Share and analyse the questions together.
- 2 How many questions can you create?
- 3 What are the most interesting questions?

Another way of encouraging a self-questioning approach is to have a Think Book or Learning Log in which children can write about what they feel and think, and be invited to answer that key question in all learning: 'What does this mean to me?'

Assessing the ability to question

A simple way to assess the ability of children *to devise questions is to give* them a common object such as a chair or cup and ask them to list as many questions about the object as they can. Another way is to take a subject of current study and see how many questions children can create about the topic. A third way is to choose a text, such as a part of a story or poem and see how good they are at interrogating the text, by asking them to create questions about it. With practice at creating questions from a variety of source materials, the fluency and flexibility of their questioning will improve. After a year in an enquiring classroom, children will often be able to generate twice as many questions, under test conditions, as they were able to create at the beginning of the year.

Test your questioning power by choosing an everyday object and seeing how many questions you can create about that object. How many questions do you think it is possible to generate? (The answer is not known, for the possibilities are theoretically limitless.)

Given practice in asking questions, they will be able to see more, to think more and learn more about any object or aspect of life – and should with experience improve the quality and quantity of their questioning.

The following are some of the kinds of questions that children can create after looking at an object.

Looking at an object – some questions that can be asked

1 Physical features

- What is it?
- What is it called?
- What does it look like?
- What colours/shapes/textures does it have?
- What does it feel/smell/sound like?
- What is it made of?
- Is it made of natural or manufactured materials?
- Is it complete?
- Has it been altered, adapted or mended?

2 Construction

How was it made?
Who made it?
Was it made by hand or machine?

3 Function

What was it made for?
How could it be used?

4 Age

Is it old?
How old is it?

5 Value

Is it valuable?
What is it worth?

6 Origin

Where does it come from?
Where was it made?

7 Design

Is it well designed?
How is it decorated?
How could it be improved?

Creating a questioning classroom

There can be problems in creating an enquiring classroom. The questions of children can be challenging and unsettling. It will not suit the teacher who thinks they have all the answers. It will not suit the teacher who is afraid of being intellectually challenged. It will suit the teacher who is keen to help children to be independent, creative and curious. It will also help to keep alive children's own curiosity about the world, and about themselves. In an enquiring classroom I was once asked: 'Mr Fisher, what are you going to do when you grow up?' In another I thought I would offer a philosophical challenge to some nine-year olds. I said: 'How do you know that I am Mr Fisher?' After a silence, one child replied thoughtfully: 'How do you know *you* are Mr Fisher?'

However these questions are answered, perhaps there is a clue to creating an enquiring classroom in the mnemonic – PARTS ARE EQUAL – reportedly used in the human awareness training of traffic wardens, meaning: *People Always Respond to Someone Actively Encouraging Equality in Questioning and Listening.*

Some examples of classroom activities which are designed to create questions for thinking are set out on the following page.

Study questions

Help students identify what is significant in their learning. Groups should devise questions from their study, writing or textbook, to test themselves or others.

Reading review questions

Ask your pupils to help you ask the class questions about the story they are reading or listening to. Try to get the child to identify what kind of question it is, e.g. is the question asking for information that is 'on the lines' (explicit), 'between the lines' (implicit), or 'beyond the lines' of the story?

Hotseating

A student chooses to be a character from literature, history or current affairs. The others brainstorm questions to ask the child-in-role. Encourage open questions.

Twenty questions

One or more of the students chooses either an object, person or place. The others have 20 questions with which to find out the answer. Only 'Yes' or 'No' answers are allowed. Only three direct guesses are allowed. Play in groups of six students. Two select the topic and four ask the questions.

Question and answer

Students devise questions to fit a given answer, for example, for younger students a person, place, thing or number; older students can devise questions for a quotation from poem or play.

Blockbusters

Create a board of letters (as in the television game). The students devise questions for each letter on given theme. The teams, in turn, aim to answer or complete a line of letter questions across the board, and block opponents.

Any questions?

Students ask or write down any question (real, hypothetical, factual or metaphysical). Each question is then given to an 'expert' partner to answer.

Interview questions

Decide on someone to interview, for example, a visitor or local VIP. The students then devise, share, evaluate and prioritise the best interview questions.

Question your classroom

Devise, write and display questions to stimulate thinking and discussion about objects, pictures or texts of interest in your classroom.

Keep a questions box, board or book

Collect any interesting or puzzling questions that arise in the classroom. Create a place to write, store or display your questions, such as in a box, on a board or in a book. Set aside some time, such as at the end of the week, to choose and discuss a question. Alternatively share out the questions for children to work on at home or swap questions with another class or group.

TASK 13**Creating a questioning classroom**

Some questions for reflection or discussion include the following.

- 1 Do teachers ask too many questions ?
- 2 What can be done to shift from closed questions to those which genuinely invite the children to reflect and solve problems?
- 3 How can teachers encourage children to ask questions?
- 4 What should be done about children's questions?
- 5 How do you create a questioning classroom?

Summary

Questioning lies at the heart of teaching and learning. There is some evidence that teachers ask too many closed and unproductive questions. We should aim to ask fewer but better questions, and seek from our students better answers, giving them time to think and to respond. Teachers help children learn by being discriminating in their use of questions, and by encouraging students to ask their own questions. All children should have opportunities to generate questions and their ability to do so will improve with practice. We should aim to create enquiring classrooms – where children's questions are valued, and where genuine learning and understanding are promoted.⁸

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3 Planning

Learning to plan is an essential skill for learning how to learn

A mighty maze! but not without a plan.

Alexander Pope (*An Essay on Man*)

I've got a plan, it's quite complicated and may not work, but at least it's a plan.

Child, aged nine

Learning to learn is about learning to think, and, in particular, about thinking ahead. But children often do not realise the importance of thinking ahead and do not get systematic instruction in planning. They learn how to perform tasks and procedures, but not how to use planning skills in all areas of the curriculum. The links in learning between subjects are not always made clear, nor are the connections between classroom learning and the informal world of learning that happens outside of school. If there are general planning and problem-solving procedures that apply equally to the classroom and the real world then children need help in learning them. But are there general planning and problem-solving skills and, if so, what are they?

One way to investigate whether there are general problem-solving skills is to look at the way expert problem solvers work. What factors make for successful performance in varying fields of human endeavour? When looking at expert performance in diverse fields such as mathematics, athletics, art, novel writing, science or cookery one common factor is that experts spend more time in planning and preparing for their activity than novices. Problem-solving in any area of human endeavour is complex and makes considerable demands on cognitive skill and processes of premeditation. Whether it is for cookery or calculus some essentially similar mental processes are used. Where outcomes are successful there have been efforts, to plan the process, to adapt and refine the operation of the activity, and to keep performance under review.

Experts have much more knowledge in their domain than novices. They also have cognitive skills that allow them to deal with problems, and enable them to turn thoughts into successful action. Many of the problems that we, and experts, face each day have common elements.¹ Every problem-solving situation requires a decision – even a decision to make no decision – a plan of action, a set of actions, and a way in which to tell if our goal has been achieved. Are these skills general or are they particular to every situation?

There is some debate about whether there are any problem-solving skills of a general nature that can be applied to a number of different tasks. One view is that problem-solving means having specific knowledge relevant to

a particular situation. Many subject teachers in secondary schools subscribe to the view that the special skills and knowledge that they teach are subject-specific and non-transferable. However, others argue that there are a number of general competencies that are involved in all problem-solving activities regardless of the subject or specific situation. These general skills relate, in particular, to planning, monitoring and evaluating, what has been called the cycle of 'plan-do-review'.²

Planning for problem-solving

In some cases students will need specific instruction in what strategy to employ. At other times awareness of more general problem-solving processes may be all that is needed to tackle a specific task. Typically, direct instruction is needed for novice learners and those with learning difficulties. For students who are older and have well established basic skills, more general problem-solving procedures may be more appropriate. These general problem-solving processes can be summed up in the following series of steps:

- defining the problem *What do we want to achieve?*
- gathering information *What do we need to know to tackle the problem?*
- forming a strategy *How can we tackle the problem?*
- implementing the strategy *How are we tackling the problem?*
- monitoring outcomes *Have we achieved our aim?*

Successful problem-solving involves the systematic application of a sequence of thoughts and activities, in other words, planning. A plan is a set of steps or sequences that we believe will lead to success in a task. A plan does not need to be a set order of steps. Often plans need to be flexible to allow for the use of a range of possible strategies that may help in achieving our objective. As we move to a solution we may need to try out new ideas, to take account of new obstacles and changing circumstances. Planning in its simplest form means we have thought about what we are going to do. 'Chance favours the prepared mind', said Pasteur. In teaching children how to plan we are teaching them to be thoughtful about what they are doing, to be best prepared to achieve success in learning.

Some researchers regard planning as the most important of cognitive methods that we can use in the classroom.³ Planning helps students to deal with information in any subject in an organised and systematic way. Planning can be regarded as the key working process of the brain in its higher functions, and fundamental to the success of human learning.⁴ Even very young children can begin to link actions together to achieve goals. Planning is evident in the way children solve construction problems with building blocks, persuade parents to let them watch an extra hour of television or unfasten child-proof locks. Young children do not recognise that they are creating plans, and they cannot explain the planning process to others. However, they do come to understand the distinction between mental activity such as wanting things, and actions such as eating food.⁵ They are able to manipulate in their minds simple mental constructs and

ideas of physical things to achieve certain goals. It is a functional understanding. They do not consciously recognise that certain actions are necessary to achieve a goal. It is only later that they come to understand what they are doing, and why. They become aware of the concept of a plan, that certain actions can be linked together in a conscious and premeditated fashion. Plans begin to become 'blueprints for thinking'.⁶

Young children learn how to perform tasks, before they are able to understand what they are doing and why. This development of understanding has implications for educators. Children need help in gaining insight into ways of performing tasks successfully. They need help in understanding and in making use of various levels of planning. These levels of planning can be summarised as:

- unconscious planning
- specific planning
- strategic planning.

Unconscious planning

In unconscious planning the person performs the task without being aware of a plan, or, the need for a plan. Problem-solving is then a matter of doing rather than design. To the question: 'Why are you doing that?' The child might reply: 'I don't know, I just do it and it comes right'. Certain kinaesthetic tasks such as riding a bike, or building a tower with blocks may not require conscious planning. The danger is that some children apply this level of undifferentiated planning to all learning tasks, regarding success in problem-solving as something to do with good fortune or coincidence rather than design – 'you either can do it or you can't'.

Specific planning

Specific planning involves a conscious effort to develop a plan for a specific task. The individual is aware of the goal and can articulate some steps in helping to achieve the goal. For example, a child makes a plan of a story before writing it, or an adult plans the lay-out of a new garden. There is a systematic attempt to reach a goal, but there may not be awareness of other strategies or approaches to the problem. In particular, a specific plan may founder on an unexpected obstacle. A problem arises and the plan does not seem to work. There may not be an answer to the question: 'What will you do if you get stuck?' or 'What happens if it does not work?' if the planning is too narrowly specific.

Strategic planning

Strategic planning is deliberate planning activity which includes consideration of potential obstacles and the need for flexibility in the use of strategies. An approach to a task may include a number of alternative routes. Planning is flexible to include changes in the sequence as circumstances and conditions allow. Examples might include the tactics devised by a sports team to cope with varying conditions of play, or the way children might plan to create a magazine together to take account of different contributions

in the group. To be effective strategic planning needs a conditional element, reflected in the question: 'What would happen if....' It recognises the need for alternative plans of action if events or circumstances change.

'The best laid schemes o' mice an' men, Gang aft a-gley'. Why? One reason is that the various elements of the planning process need to come under metacognitive control.

Planning and metacognition

Metacognitive control is one of the characteristics of good thinking and learning. Students with good metacognitive control, those we might call 'meta students', have control over their thinking, they think ahead and are mindful of consequences. They are aware of strategies that can help them in their thinking, such as the need to concentrate, and knowing what to try when you get stuck. They think about their own thinking, and become efficient in using these strategies. But many students do not have insight into their own thinking and learning. Those with poor metacognitive control, 'non-meta students,' are mentally passive and unreflective. They believe that learning is externally controlled. They are not aware of strategies that might help them to think better and learn more efficiently. They are inefficient in the use of strategies, for example, by being impulsive in their responses and having an episodic grasp of reality that often characterises poor learners.

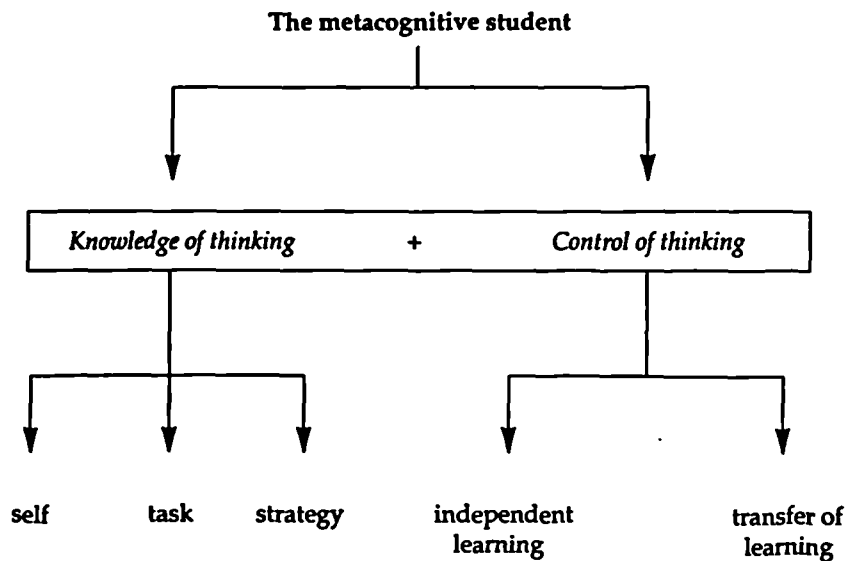


Figure 3.1 The metacognitive student

Metacognition has three major elements:

- *planning planning goals (and sub-goals), operations and sequences, identifying obstacles and possible problems, knowing the process and predicting outcomes*
- *monitoring keeping in mind the goals, place in the sequence, possible obstacles and errors, knowing what to do when things go wrong or plans fail, knowing when goal is achieved*
- *assessing assessing success of strategies and progress towards goal achievement, assessing errors and mistakes along the way, evaluating the whole process.*

Piaget spoke about the importance of the 'groping and correcting' phase of learning, which is why the monitoring and assessing elements of metacognition are so important. Planning needs to be flexible and strategic to take account of the unexpected. History is littered with examples of rigid plans that failed, such as Napoleon's march on Moscow in 1812. A specific plan may focus too narrowly on one goal and fail to take account of changes in circumstances. Planning also needs to be personal, to be rooted in what we know and understand, and attuned to our styles of learning and doing.

Children need to be made aware of planning, to be shown examples of plans and to be given the opportunity to create their own plans. If our aim is to develop independent learners, we need to try to move from teacher-controlled plans to student-controlled planning. This can be achieved in three phases:

- *direct instruction phase explaining to students about plans and planning, showing examples of plans and planning strategies involving students in recording or implementing given plans*
- *facilitation phase explaining how plans can be created, showing how plans can be modified and extended, involving students in putting plans into their own words*
- *self-generation phase explaining that everyone needs to be able to plan showing examples of students' planning involving students in making their own plans.*

If planning is essential to success in problem-solving and for developing metacognitive skills, then children should have the opportunity to learn about the process of planning and be given experience in planning for specific and strategic purposes. The school curriculum provides the ideal context for introducing the planning process to children. So what contexts can be used for teaching planning?

Teaching planning

Using examples from everyday life is the best way to illustrate what planning is, and to bridge the gap between unconscious and conscious mindful planning. One approach is to introduce children from an early age to real-life problems and tasks that require planning.

I became aware of one approach to teaching about planning during my

first year of teaching. One of the problems I faced was what to do first thing on a Monday morning, or at any time when there was nothing timetabled. At breaktime, I would ask children from other classes what their teachers did. I soon learnt that one young teacher had the problem solved. Every Monday morning she would sit her class down and tell them at least one of the problems she had faced at the weekend, or had to face in the previous week. (Needless to say, she did not, I think, share all her problems). But her children were fascinated, firstly, to find out she was human and had problems and, secondly, that these could be shared and talked about. How could she buy something she wanted but could not afford? How should she tile the bathroom? How should she get to know her new neighbours to whom she had never spoken? Whether these problems were real or imaginary I never discovered, but I knew from the way children would come up to me in the playground and whisper confidentially: 'Do you know what problem she has this week?', that she had found a powerful motivator of interest, and a useful tool for discussing alternative plans of action.

TASK 14

Planning for problem-solving

- 1 Identify a real-life problem from your own experience.
- 2 Share this problem with a child or group of children, expressing the problem at the child's level of understanding.
- 3 Ask the child to suggest a plan by which the problem could be solved.
- 4 Some questions to consider include the following.
 - What is the action plan? What steps are needed?
 - What are the logistics of the plan? What resources will be needed?
 - What are the criteria for success of the plan? How will we know if the plan has worked?

If one resource for discussion is to talk about plans to overcome problems in the real world, another is the use of favourite stories. Many stories that we share with children have a planning element which can be found in the theme or plot. The following are some questions that could be asked of young children about almost any story that they read or hear.

- What problem(s) did the hero/heroine face?
- What was his/her plan to solve the problem in the story?
- Did the plan work? Why?

An extension of this is to ask children what they would think and do if they were the character in the story. For example, what plan could they think of if they were one of the three pigs trying to stop the wolf from destroying their house and eating them? Many stories contain a turning point, when a dilemma is faced and a decision is made. These are good moments to pause, and to encourage some thinking time. For example, in the story of *Sleeping Beauty*, when the king and queen know that the princess is under a curse which means that if she pricks her finger she may sleep for a 100 years, what should be their plan? Should they warn their daughter? Is she better off

knowing or not knowing about the curse? What should they do?

Another obvious way of introducing the need for planning is the daily programme. What should we do? When should we do it? When should we stop? Why should we do it this way? The child's timetable of activities at school and at home provides good opportunities to discuss the need for forward planning. Research in schools shows that many children do not know what they are going to do in class later that day or later that week. Many have no clear idea of the pattern of their daily activities. The following are some possible timetabling activities for children to plan:

- daily plan *record/discuss their planned timetable for the day*
- weekly plan *record/discuss the planned timetable for the week*
- long-term plan *record/discuss the major events of the term or year*
- weekend plan *record and discuss how they plan to spend the weekend (or an ideal weekend)*
- study plan *record a timetable for study such as homework, or study plan for a project*
- holiday plan *record and discuss their holiday or vacation plan*
- life plan *record and discuss their possible future life plans.*

Planning can begin at an early age. The High Scope⁷ pre-school/nursery programme for three to five-year olds has a planning element built in to daily activities. The day begins with the children sitting in a group and each saying what their plan for the morning is, what activities they intend to undertake and in which order. Planning behaviour is reinforced by the expectation that they will collect the apparatus they need from marked storage areas and return the apparatus to the appropriate place. The children are expected to review at the end of the session what they did and how their plan worked. Some young children find planning various activities throughout a morning quite a challenge. Others learn how to plan for the day, for a week and even longer. They learn that through planning they can bring order, structure and predictability to their world, even if it is just in the prepared environment of the classroom. They are no longer passive recipients of information about what to do, but can be active in planning purposeful activities. If one of the purposes of school is to practice the things you need for life, then practice in planning at any age must be a useful aim of teaching and learning.

TASK 15

Creating a time plan

- 1 Identify a period of time to plan, for example, day, week, month, half term, term or year.
- 2 Show children how activities can be created on a timetable, for example, what would be the timetable for their class in an ideal school?
- 3 Ask children to:
 - identify a purpose for their time plan
 - record their planned activities for the chosen period of time
 - present and discuss their finished plans.

Children do not need to plan every activity. Part of learning to plan is to know when planning would be helpful. Opportunities to plan exist in, and can enrich, every area of the curriculum.

Any sequence of activities that make up a lesson is a plan, and can be introduced by saying: 'The plan for this lesson is ...'. A plan should not merely be a set of directions or instructions which tell children to perform one action after another. A plan should include some reference to the process of thinking and learning. The planning process should include some reference to thinking about, monitoring or assessing the outcome of the task.

Figure 3.2 illustrates a plan for learning how to spell a word. It shows an example of a child making the plan his own, after discussion with the teacher, and adding his own drawings.

Characteristics of well-formulated plans

There are a number of features characteristic of well-formulated plans. The unconscious, undifferentiated plans used in everyday life may only include a goal and some general idea how to achieve it. They are rarely written down, seldom contain specific details of how to proceed and are not open for others to follow. A well-formulated plan provides a framework which enables people to think through future actions. It helps us to organise and structure understanding and assists us in undertaking practical tasks. A good plan, such as the one illustrated in Figure 3.2, contains a number of important features:

- focusing *Where to start? How to start? 'Look.'*
- acting *What to do? In what sequence? 'Cover.' 'Write.'*
- monitoring *Is the plan working? What do we need to remember? 'Think.'*
- evaluating *Is the task completed? Has the plan worked? 'Check.'*

It is important that plans provide a starting point. A clear beginning or *focus* shows a student where and how to start and what to do, and what steps or *actions* to take. The aim of the plan is to liberate the student from direct teacher assistance. Plans are not only a teaching device, but aim to provide a means for independent learning. A good plan contains an action component and a thinking component. Good plans need *monitoring*, which means providing thinking (metacognitive) steps to help people in making judgements about what they are doing and intend to do. Without the monitoring and *evaluation* stages, a plan can remain just a set of directions for a given task. A good plan is strategic, and includes skills that can be applied in a number of contexts.

A strategic plan should encompass the FAME formula (focus, act, monitor and evaluate), but may not necessarily have only these four steps. Some plans may include many more steps, such as two focusing, three acting and so on. In some plans, a step may have a dual function, for example, acting and monitoring, or monitoring and evaluation may be just a single step. Having too many steps becomes confusing. A useful task is for the teacher to do a model plan in great detail, and ask children to try to simplify the steps in their own words. Keep in mind the magic number seven (plus or



Figure 3.2 A child's plan illustrating 'Look, Cover, Think, Write, Check'

minus two) as the ideal number of steps in a finished plan.

Once children gain understanding of the planning processes, and have used them for a number of purposes they will become more proficient and confident in planning. They will be able to draw on knowledge of past planning experience to guide them in future planning. As children become more independent learners and problem-solvers, they will develop planning skills in the following four areas:

- knowledge of what plans are, and experience in using plans
- skill in formulating plans for different purposes
- understanding when planning would or would not be useful and appropriate
- the disposition to plan and to be mindful (strategic) in undertaking tasks and solving problems.

Planning works best when it meets student needs. One need that everyone faces in school is the need to communicate through writing. All writing requires planning, or some form of mental rehearsal. Planning can be important in the pre-writing stage.

Ways of using plans

Plans can be used in a variety of ways: before attempting a task, during the task or after a task is completed. Plans can be created individually, in pairs, small groups or as a whole class. Plans can serve a variety of purposes:

- a plan to help you ...
- a plan to help your group ...
- a plan to help others ...
- a plan to show how you did it ...
- a plan to show others how to do it

All areas of teaching provide opportunities for planning. The following is a list of some of the possible opportunities for planning in different subject areas:

- language *plans for activities in reading, writing, speaking and listening*
- mathematics *plans for solving problems, to show methods and procedures*
- science *plans of investigations and experiments*
- technology *plans for designing and making*
- history *historical plans, battle plans, plans for historical research*
- geography *plans for field trips, plans for geographical research*
- art *plans for art projects*
- music *plans for performing, composing or appreciating music*
- physical education *plans for gymnastics, dance and sports sequences*
- religious education *plans of religious festivals, rituals, customs etc.*

All research, whether it is carried out by an industrial or university research team, or research undertaken by children at home or school, can benefit from planning. A useful first step in any research activity can be to ask some key questions. The following task contains a number of questions to help in planning research.

TASK 16

Planning for research

On a chosen topic ask/list, or ask students to make lists under the headings listed below.

- 1 What do we know about the topic?
- 2 What do we need to know?
- 3 How can we find out? Where? Who might help us?

Many practical activities around the school can provide opportunities for planning and problem-solving, for example, preparing for a class outing, a class presentation, party or fund-raising activity. Older students can be asked to plan their homework schedules, and to provide plans for important elements of course work. Children can be encouraged to talk about their own plans, such as plans for family holidays, plans for winning games, or plans on how to make friends.

A plan for painting a picture

The following is an example of a child's plan for painting a picture.

- 1 Look at the subject you are going to paint. Think about the dimensions, sizes and colours of each part. Take into view the distances and shapes and weigh them up in your head.
- 2 Roughly sketch the scene in charcoal or dark pencil. Check your sketch and compare it with the scene. Make sure you are happy with each line, for this is the skeleton of your picture.
- 3 Look carefully at your colours and prepare the paints in your palette. Use just the right amount of paint for the style of your painting.
- 4 Now start blocking in the basic colours. Slowly, but surely, work your way round the picture adding details, and remembering to do the background first. After a while, it is a good idea to stand back from your painting and view your work so far.
- 5 By now, you should have covered the whole sheet with paint and can begin on the details. If you are painting a landscape, think about adding a few birds or, if a seascape, a few boats. Maybe, you could even add a couple of people – just use your imagination. If you are painting a portrait or a still life picture you could perhaps add highlights or shadows.
- 6 When you have finished your picture, stand back and look at it to make sure everything is to your satisfaction.

Planning does not ensure success, but it does increase the likelihood of success. At the very least it encourages 'mindfulness'.⁸ Planning is a fundamental skill for learning and for life and should be part of the daily experience of all children, as it is of all teachers. 'Plans help me to think things through,' said a nine-year old. Have you made or shared any good plans today?

Summary

Planning is a key process for effective learning and problem-solving. Children need help in making use of different types and levels of planning.

The ability to plan, particularly strategic planning, helps the metacognitive control of learning. Important aspects of the planning process involve monitoring and evaluation. If planning is important, it should be part of the daily experience of children, infusing all areas of the curriculum. The teaching of planning should be structured so that it moves from teacher-generated planning to students being more effective in making their own plans. Planning can play a part in all curriculum areas and is an important lesson for learning and for life.

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4 Discussing

Talking to learn through dialogue and discussion

As civilised human beings, we are the inheritors, neither of an enquiry about ourselves and the world, nor of an accumulating body of information, but of a conversation, begun in the primeval forests and extended and made articulate in the course of centuries. It is a conversation which goes on both in public and within each of ourselves And it is this conversation which, in the end, gives place and character to every human activity and utterance.

Michael Oakeshott

You don't know what you know until you say it.

James, aged nine

James is a quiet boy. In a class of lively nine-year olds, he can be easily overlooked. As a rather isolated and undemonstrative child, his abilities could easily be underestimated. In a group, he strives to be invisible. But sometimes, as in this lesson, his conversation flowers. It was a discussion in a Philosophy for Children class (see page 50), talking about whether the brain is the same as the mind. 'You know a lot of things', said James, 'but you don't know what you know until you say it.' His argument seemed to be that there were many things, items of knowledge and such-like, stored in the brain that you only knew about if you brought them to mind. Sometimes this 'bringing to mind' occurs in dreams, sometimes in thoughts and sometimes in speaking. Much of our knowledge is tacit. Once articulated, this knowledge no longer simply resides in tacit form. When articulated, it is no longer what Whitehead called 'inert knowledge'. When it becomes available for inspection, it is available for performing a variety of tasks. This 'bringing to mind' through talk can be a powerful thinking and learning strategy. It is part of the long tradition of Socratic teaching, which begins from a seeming ignorance and proceeds through dialogue to a revealed understanding. The Socratic quest of philosophical enquiry, through questioning and self-questioning, can be seen as a method for getting at personal meanings that may otherwise remain hidden. Socrates, like James, believed that we know more than we know. We may only be dimly aware of the nexus of meanings within which we operate. We may not know what we think until we hear what we say. This perhaps underlies the Delphic injunction 'Know thyself', a process that is served by thought and talk.

This chapter considers some of the links between talk and thought, from the egocentric talk of the young child, through the many different forms of dialogue, to various ways of talking to learn through discussion in a classroom community of enquiry.

Talk and thought

There has been much debate among philosophers and psychologists into the relationship between thought and language. Does thinking determine language, or does language determine thought? Or is there an interactive relationship between the two? Verbal thinking can be regarded as the internalisation of speech. The structure of our thinking in a typical conscious thought does not, however, seem to mirror the patterns of fully voiced speech. Vygotsky¹ argues that a better approximation to verbal thought lies in egocentric speech. When children, or adults, talk to themselves about what they are planning or doing their egocentric speech captures something of the function of thinking. Consider the following from Joyce's *Ulysses*:²

...that lovely fresh plaice I bought I think I'll get a bit of fish tomorrow or today is it Friday yes I will with some blancmange with black currant jam like long ago not those 2lb pots of mixed plum and apple from the London and Newcastle Williams and Woods goes twice as far only for the bones I hate those eels cod yes I'll get a nice piece of cod

and compare it with the following from a five-year old:

I'm going to make a now what do I want. Let's see.... I'll start with this and fix it on ... like this. Is it right? It's got to go up ... wait and see. Brrrrrr! It needs some more ... not that one. OK what's next? It's got to look right'

As with thinking, egocentric speech has a self-directed regulative function in which the child seeks to represent and respond to the world. As Vygotsky says:³

...the function of egocentric speech is similar to that of inner speech: it does not merely accompany the child's activity; it serves mental orientation, conscious understanding; it helps in overcoming difficulties; it is speech for oneself, intimately and usefully connected with a child's thinking.

From an early age, children are busily engaged in creating meaning out of what William James called 'the great buzzing, blooming confusion of the world'. They begin to develop 'theories' about what they know and experience. These ideas become the basis of their actions and responses and are tested, validated, revised or improved in the light of subsequent experience. They help the child to anticipate, comprehend events, and to create order out of what would otherwise seem to be random and inexplicable. If this meaning-making capacity is adequate, and subject to testing against reality, then they can achieve competence in their lives. The relationship between the inner world of mind and the outside world becomes creative. Our competence in solving a mathematical problem, painting a picture, or maintaining a personal relationship all depend on this capacity to construct meanings, from the interaction of ourselves and our environment. Inadequate meanings lead to inadequate responses, to poor levels of anticipation and an inability to comprehend the consequences of ideas and actions. Socrates summed this point up succinctly when he said: 'The unexamined life is not worth living'.

TASK 17

Talking and thinking – a discussion plan

Discuss with some children the relationship between talking and thinking.

The following questions can be used in discussion.

- 1 When you talk do you always think first what you are going to say?
- 2 Can you talk to someone without thinking?
- 3 Do you ever talk without thinking?
- 4 Which comes first thinking or talking?
- 5 Is thinking just talking to yourself?
- 6 Can you think without words?
- 7 Can you talk without words?
- 8 Which can you do more quickly talking or thinking?
- 9 Do you ever talk to yourself? Why?
- 10 Does talking with others help you think and learn? Sometimes? Always? Never? Why?

Modelling – recreating the world in words

One way of helping this construction of understanding is to talk with ourselves about our experiences, to model the world as we understand it in words. Vocalisation gives substance to thinking. More accurately this is sub-vocalisation, for the words do not need to be audible. As adults, this 'talking things through' to oneself may seem a natural enough activity. We do not have to see Shakespeare's *Hamlet* to know the experience of a 'stream of consciousness' soliloquy. For children, at the early stages of self-awareness, it is an experience to be encouraged. Teachers can encourage this process by modelling it themselves, by talking things through out loud or as a soliloquy.

Examples of talking things through

Define the problem

Say what the situation is, where you are and where you hope to get to and ask questions like: What is the situation? What do I want to achieve? What obstacles prevent me from doing it?

Plan a course of action

Talk through a step-by-step approach to a problem, outlining what one hopes to achieve and the stages one hopes to go through. We know from research that a key factor that differentiates experts from novices in most fields of activity is that experts spend more time at the planning stage. Part of the skill of planning is predicting the consequences of an action. Questions in the planning process include: Where do I start? How do I start? What do I need to do? What will happen if I do this?

Monitoring the situation

Check the progress of a plan, action or experience by asking, for example:

How am I doing? Is it working as expected? What needs doing/thinking about? What should happen next?

Reviewing the outcome

Verify that the task has been achieved by testing the result by asking: Is it finished? Does it make sense? Have I achieved what I set out to do?

Self questioning

In sports coaching, much stress has been placed on the value of the 'inner game', on the belief that planning, anticipating and framing models of play in our head will help improve subsequent performance. Developing the inner game through self-conversation is just one way to do it. As one child reported: 'I like talking things through to myself – no-one interrupts!' It helps the child not only in 'coming to know', but also in their knowledge of themselves – the skills of metacognition.⁴

Successful learners have metacognitive skills that involve developing an awareness of their own learning. If children are made aware of their own learning then they are in a better position to improve it. By modelling examples of talking things through we can show children ways in which they too can articulate their ideas. We learn to find out more by questioning ourselves, and talking through what we have done, what we are doing and what we hope to do. This self-questioning is in a sense the first stage of Socratic dialogue. If we are to invite children into the club of critical thinkers we need to share with them our own thinking processes, and also invite them to share in the thoughts of others – through dialogue.

Thought and dialogue

Wittgenstein⁵ argued that the limits of one's language are the limits of one's world, and, as far as our verbal intelligence is concerned, he is surely right. 'Whereof one cannot speak,' he wrote, 'thereon one must remain silent.'⁶ As the work of Luria and Yudovich⁷ shows, in their classic study of identical twins, creating a social context where dialogue takes place and where children are persuaded to make their meanings public, and therefore explicit, produces gains in thinking and learning. From an early age, the boy twins had developed a private language of their own (a restricted form of Russian), that could not be understood by their teacher or classmates, when, at the age of five years, they went to school. Their play and social understanding was as limited as their speech. The less backward twin was put in an ordinary class and, after six months, his language had improved to the average level expected of the class. The more backward twin was given, in addition, a carefully mediated programme during which he was forced to articulate his meaning and understanding. This boy made even more spectacular progress, out-performing his brother in both verbal and non-verbal intelligence tests.

Children need opportunities not only to enquire into their own views and ways of thinking, but also, through dialogue with others, to discover

different perspectives and points of view. It is through dialogue (as well as through other symbolic means, such as the written word, art, dance, music etc.), that the private world of the self is extended, and we are able to overcome the egocentricity of thought by being helped to find more reflective and considered ways of thinking. Through dialogue, inner speech is turned into a shared event – what Harri-Augstein⁸ has called a ‘learning conversation’ and what others have referred to as ‘conferencing’.⁹

A learning conversation can be structured round any event or experience. What differentiates a learning conversation, or conference, from ordinary talk – from day-to-day chat and routine conversation – is that it involves higher-order thinking and raises the process of learning into awareness. A learning conversation contributes to understanding. It involves helping children to express their understanding about what they are doing. A learning conversation, therefore, involves some form of positive cognitive intervention. It does not leave everything as it is. It challenges and it invites response. The teacher becomes, in a Socratic sense, a ‘gadfly’, challenging the status quo of students’ thinking by asking them to express their personal understanding of the topic in hand.

Some examples of strategies teachers can use to encourage students to articulate their thinking through dialogue, and encourage them to become participants in a process of enquiry are:

- defining the purpose of the activity, by discussion *Why are you doing this? What do you hope to achieve? How will it help (e.g. to fulfil your needs/ambitions, or the needs of others)?*
- inviting views or opinions about the topic in hand, by asking questions *What do you think? What are your views/opinions/beliefs about the topic? Do you agree with what has been said?*
- questioning the text or topic, to encourage self-monitoring of understanding *What do you not know or understand about it? What do you want to find out? What questions can you ask about it?*
- clarifying to help students express what they mean by asking questions *What does that word/point/detail mean? Can you explain it? Are you saying that...?*
- summarising, to check understanding of the whole of the topic *What was said? Can you say it in a few/your own words? Can you say what you think/know?*
- developing strategies and tactics, by discussion *How can you succeed/do well? What problems/obstacles do you face? What ways can you try (to succeed/overcome problems)?*
- evaluating outcomes, by discussion *Have you succeeded? What is good about what you have done? What could be improved?*
- reviewing the whole process, by discussion *Would you do this again? Would you do it this way? What have you learnt from doing it?*

Any learning activity consists of a number of sub-events out of which the whole experience develops. There is, therefore, a double-focus to any activity or dialogue, the *parts* (separate instances, events, experiences, actions, ideas etc.) and the experience or topic as *a whole*. Dialogue needs

to focus, therefore, on both general principles and particular examples. It needs to provide insight into parts (analysis), and an overview of the whole (synthesis). One of the advantages of group discussion is that it offers the possibility of including a variety of viewpoints, of exploring the particular individual views of students, as well as the general or organising principles that help to make sense of the topic as a whole. Discussion provides an opportunity to learn what others think, and to express and clarify our own thinking. Discussion can be a powerful vehicle for learning – but what is it, and how should we use it in the classroom?

What is discussion?

The word discussion has two common uses. The first is as a general term to cover a wide range of informal situations where talk between people occurs. According to one researcher there are more than a dozen forms of discussion, including debate, panel forum, buzz groups and peer tutoring.¹⁰ The second use has a more specific meaning. This refers to a particular form of group interaction where members join together to address a question of common concern, exchanging different points of view in an attempt to reach a better understanding of the issue. This form of discussion has also been called a 'community of enquiry'¹¹ and it is this 'ancient and essential educative activity'¹² of interpretative or enquiry discussion which will be explored.

Certain conditions can be identified as necessary for a discussion to take place. These include a subject or topic to be discussed, people to discuss it, and certain language or behaviour to facilitate the discussion. If the discussion is to be a genuine process of enquiry it should reflect certain defining conditions, moral dispositions and intellectual principles. 'The central function of discussion is the improvement of knowledge, understanding and/or judgement Discussion differs from the social art of conversation in that what the talk is about is a matter of some serious importance.'¹³

Defining conditions

Certain characteristics or logical conditions define discussion. These are the conditions that have to be met for us to say that people are actually engaged in discussion. They include that people participating in a discussion:

- must talk to one another
- must listen to one another
- must respond to what others say
- must put forward more than one point of view on the topic under discussion
- must intend to develop their knowledge, understanding or judgement on the issue.

The following questions can be used to assess whether a genuine discussion has actually taken place.

- Have children talked to one another?
- Have they listened to each other?
- Have they responded to what others have said?
- Have they considered different viewpoints?
- Have they shown development of knowledge, understanding or judgement?

These conditions define what discussion is, but they are matters of degree. All discussion must involve some form of interaction but, in the classroom, these conditions can be seen to develop and improve over time, for example, by students talking more, listening more attentively, responding more to what others say, putting forward more divergent points of view and being able to correct and refine their judgements.

Moral dispositions

Certain moral principles underlie the successful working of group discussion. Without a moral framework, group discussion cannot function. The moral principles that make discussion possible include:

- *orderliness by observing the rules of discussion such as 'only one speaks at a time', not interrupting or shouting someone down*
- *reasonableness whereby individuals are willing to listen to the reasons, evidence and arguments of others, and are willing to allow the arguments of others to influence their views*
- *truthfulness speaking what they believe to be true, not deliberately lying, deceiving others or pretending to believe what they do not believe*
- *freedom of expression being free to express an opinion, not subject to restraint by the views of others, by being ridiculed or embarrassed*
- *equality of opportunity with all having equal access to opportunities to speak and to have the attention of others, not having to suffer the dominance of the few*
- *respect for others respect for the rights and opinions of others, giving attention and thought to what they say, responding with care and respect for them as persons*
- *open-mindedness being open to the views of others, willing to change one's mind, being sensitive to the views of others, and willing to suspend judgement.*

If classroom discussion always reflects moral principles and dispositions such as these, then it will help to foster the intellectual qualities or virtues of participants. If students and teachers take care to exhibit these attitudes and concerns during the course of discussion, they will grow in these qualities and become a model for others. The cultivation of understanding will be enhanced by being responsive to the opinions of others, by being reason-seeking in argument, reflective in judgement, and by communicating in a clear, concise and consistent fashion. These intellectual virtues play a vital role in the search for meaning and order in a confusing world. They help strengthen the ability to make reasonable judgements about what to think and do.¹⁴

TASK 18

Why use discussion?

What are your views on the use of discussion?

The following questions about the use of discussion could help frame your own thinking, or can be starting points for discussion with colleagues or students.

- 1 What is a discussion?
- 2 Is every kind of talking together a discussion?
- 3 Do discussions need rules? If so, what should they be?
- 4 What good can come out of discussing things with others?
- 5 What do you like/not like about discussions?
- 6 Can you remember a good discussion? (What made it good?)
- 7 What things are best for discussion?
- 8 Are there some things you would not want to discuss?
- 9 Do you prefer to talk or listen in a discussion?
- 10 What would you like to discuss?

Teaching through discussion

There has been much research in recent years into the ways in which teachers generate talk with and between children. Much of this impetus in the United Kingdom has come from the National Oracy Project,¹⁵ involving hundreds of teachers and advisers. Close attention has been given to the use of talk in the classroom, often involving the analysing of evidence on tape. This has highlighted the value of exploratory talk, of talking round, talking through and talking about topics of study, as well as the importance of having a purpose and an audience for talk. Talk needs to be directed to an end, towards a question, or focus of enquiry or as part of a learning conversation. Talk for its own sake may be congenial, but it is often unproductive, as the idle chatter of children in unsupervised groups often shows. But the tapes and observations of teachers also revealed ways in which teachers sometimes negated their purpose of supporting learning through talking.

Teachers confirmed what much research into classroom interaction had suggested, that in their conversations teachers took up more talking time than children. The recommended interviewer/interviewee ratio of talk should be about 20 : 80, but teachers often find that they themselves do not provide good models for discussion. 'I heard myself dominating the discussion', said one teacher, 'interrupting children, asking questions and rephrasing answers, and, worst of all, not listening to what they said.'¹⁶

In classroom discussion, children tend to talk directly to the teacher, competing for attention, or become monosyllabic in their responses. They become dominated by the need for approval, rather than by the search for understanding. They tend to be fearful of taking risks, inhibited from exploring the unfamiliar, or from building on the ideas of others – all aspects of talk that need to be developed if children are fully to explore their ideas. This is partly due to the standard forms of classroom discourse, where the teacher takes on the role as the provider of answers and the dispenser of approval. Such established patterns are hard to alter, but in building a genuine community of

enquiry, there is a need to make explicit any changes that are being made in the 'educational ground rules'.¹⁷

The ground rules for 'talking to learn' should include the teacher making clear their role in the learning situation.

The teacher as expert

There are many situations where teachers need to take on the role of expert, sustaining the attention of individuals or groups, leading pupils to higher levels of understanding through direct teaching methods. This means 'scaffolding' the steps to learning and understanding so that students achieve their optimum potential in assisted learning or performance. This may be achieved, for example, by explaining, by questioning or by demonstration.

The teacher as facilitator

Teachers often organise situations where children are working in groups. In this role the teacher has a management function rather than a direct teaching role. The children may be free to explore ideas and to help each other in a collaborative venture without constant reference to the teacher, although the teacher may intervene when pupils do not seem to be getting on. Students can benefit from working collaboratively without teacher intervention, and can become skilled at managing group interactions, for example, ensuring that each member of the group has a turn. It is helpful if groups have had a chance to establish and agree the ground rules for discussion beforehand.

The teacher as participant

Discussion between pupils can often be useful, but talk for learning is generally enhanced by the active participation of a teacher or experienced adult. The benefits that a teacher can bring to an enquiry or learning conversation include the following elements of mediation:¹⁸

- focusing *by directing attention to important points, issues or factors*
- seeking meaning *by asking for reasons, explanation or clarification*
- expanding *by showing links between ideas, and links to new ideas*
- rewarding *by verbal or non-verbal expressions of positive response.*

One of the purposes of a teacher as participant is to get pupils to talk and listen to each other, rather than directing all their talk through the teacher. The aim is to help children to feel independent and equal in their responses to each other, and to create what Lipman calls 'a community of enquiry'. Some strategies that have helped in this process include:

- the teacher sitting at the same level as the children, as one of the audience
- everyone sitting in a circle and being given a turn to speak if they wish
- using a symbol, e.g. a 'talking shell' or 'magic microphone', where only the person holding the object can speak
- encouraging speakers to look at the person to whom they are talking
- think-pair-share, where each child has a 'talk partner' to think about, discuss and contribute together

- asking a child to chair a group discussion
- listening more than you speak, allowing 'thinking time', using eye-contact and supportive interjections, like 'Mmm' or 'Yes...' to encourage children to expand on their meaning
- giving your own opinion, idea or experience to stimulate thought instead of asking too many questions – sometimes playing 'devil's advocate' by arguing an opposite viewpoint.

What are the occasions when talking to learn can be stimulated in the classroom?

TASK 19

Contexts for discussion

What are the possible contexts for encouraging discussion in the classroom?

- 1 Make a list of possible opportunities within the curriculum where talk may help thinking, understanding and learning.
- 2 Consider your contexts under three headings.
 - a) Teacher as expert
 - b) Teacher as facilitator
 - c) Teacher as participant.

Research suggests that children aged 11 years are more competent at telling a story than they are at argument and non-narrative forms of writing or discussion.¹⁹

All areas of the curriculum can provide opportunities for learning conversations and enquiry – or specially devised thinking skills programmes can be used for this purpose. Philosophy for Children²⁰ is one such programme. Below is a brief summary of the processes involved, followed by an example of a discussion using the Philosophy for Children approach. The format for a philosophy for children lesson involves:²¹

- children reading part of a philosophical story round the group or class
- after reading the story, children are asked what they found interesting or curious, and to choose an idea they would like to discuss
- children's responses are written on a board in the form of questions, with their name written alongside their question
- a question is chosen from the board to form the basis of enquiry and discussion.

The following dialogue is an excerpt from a Philosophy for Children session, and was prompted by reading part of *Harry Stottlemeier's Discovery* by Matthew Lipman.²² The comments come from a group of 11-year-old children. After raising several questions from the reading, one was chosen for discussion.

RF Is your brain the same as your mind? Let's see if we can get a bit closer to an understanding of that. Tom, why did you ask that question?

- Tom* Well is it — I mean your brain controls your heart and your arms and everything that goes on in your body, but does your mind really think, 'Okay — I'll move left,' and do you think, 'OK brain send messages down to the muscles to move?'
- RF* So are you saying because the brain has its messages that the mind is not aware of that, it means that the mind cannot be the same as the brain?
- Tom* Yes, it isn't the same as the brain, — because — it's part of the brain but it isn't the brain.
[This age-old question in philosophy prompted a number of comments from children, agreeing, disagreeing, suggesting or building on ideas.]
- Child* I think I'd agree with Tom that your mind is part of the brain. But — if you'd like to put one inside the other you'd put the mind inside the brain
- RF* So if the mind is inside the brain...
- Tom* Or inside part of it ...
- RF* Part of it. How do you think it's different from the brain? If it's not the same as the brain — it must be different, mustn't it?
- Tom* Well the brain controls everything about us, the mind as well, but the mind only controls our thoughts — and contains our thoughts.
- Child* Memory?
- Tom* I think the mind is made out of memories and thoughts — it's a thinking bank.
- RF* So is the mind the same as the brain, but the brain just bigger than the mind, or is the mind different from brain?
- Child* Different?
- Child* Yes.
- Child* Because it doesn't control anything — the mind just thinks.
- Child* The mind, I think, is our thoughts more than controlling our body. I mean — our brain sends messages everywhere round our body all the time to nerves and everything, or they are sending messages to the brain but the mind isn't part of this, I don't think. I think the mind just contains your thoughts.
- Child* And memories.
[The discussion moved on to what happens when you die.]
- Child* I think when your brain dies it's like a shut down, and it shuts down your body. And I don't think your mind does carry on really, it just shuts down every system, and your brain has to work your mind really, because I don't think your mind would really work if your brain had shut down.
[The children went on to discuss what happens in the mind when you dream, and were then encouraged to think of analogies for the mind.]
- RF* Would you agree with someone who says the mind is a bit like smoke in brain — a sort of strange ghost?
- Child* Yeah.

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- Child* Yes.
RF If it's like a strange ghost, then could it live outside the brain?
Child Not like a ghost.
Child The mind's not like that — it's not very good.
RF Not a good way to describe the mind? A lot of thinking goes on in what are called analogies. We've got to liken it to something else to understand it better. What would you say the mind is like?
Child Like a big warehouse — with things on the back shelves of your memory — and things being moved around in your thoughts.
Child Yeah.
RF So part of the warehouse is called the mind? The active part ...?
Tom No, the warehouse is your mind.
[Discussion continued on how the mind was like a warehouse.]
RF If the mind is like a warehouse what is the brain like? Can you continue this analogy ...?
Child A brain is like a — a — beehive.
Child A dock — containing lots of different warehouses for doing different things.
Child An ants nest!
[The topic ended with children being offered a 'last word', and the chance to sum up their thoughts.]
RF So if we come back to Tom's question, 'Is your mind the same as the brain?', we could now formulate a much better answer to that couldn't we?
Tom Yes.
RF How would you sum up your answer now, Tom?
Tom Your brain is like a dock and your mind is like a warehouse in it containing all your memories and thoughts on lots of different shelves — and your brain sends out different messages around and across the dock.

Socrates was called a 'midwife of ideas', and this is an apt description of any teacher who seeks to develop talk for learning. Talking to learn can be considered to be an aspect of cognitive apprenticeship. Key elements in this process include:

- modelling *demonstrating self-questioning and the articulation of ideas*
- coaching *encouraging the articulation and questioning of ideas through dialogue*
- practice *providing opportunities for talking and learning in a community of enquiry.*

Talking to learn, as the above transcript shows, is not an exact art. It is a process of learning to think and reason through learning to talk with, and listen to, others. The teacher models the process 'teaching by example' and mediates the process, both by building on what children can contribute and by providing opportunities for enquiry to take place. This exemplary role of the teacher is summed up well in the words of Michael Oakeshott: 'Not the cry, but the rising of the wild duck impels the flock to follow it in flight'.²³

Summary

Talking and thinking are closely linked in the child's attempts to reflect on and make meaning out of experience. Aspects of talking to learn include talking things through to oneself, dialogue with others, and group discussion. The teacher can help children to develop communicative competence through discussing matters that require the exercise of thought and judgement. Curriculum activities and thinking skills programmes, such as Philosophy for Children, can provide contexts for discussion and enquiry.

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5 Cognitive mapping

Creating mind maps can help organise thinking and learning

As any photographer knows, the frame of the viewfinder 'organises' the image within it, creating a visual statement where, without the frame, one might see only clutter. And, as any builder knows, the frame of a building supports its totality. Both metaphors highlight a crucial feature of thinking frames. They support and organise thought, but they do not do the thinking. They are guides, not recipes.

David Perkins¹

When you make a map it helps you to think about what you know and what you don't know.

Student, aged eleven

A map is a useful guide to where we are and where we wish to go. A map is a useful geographical tool. It is a way of making our thinking about space and location visible, showing us the interrelationships of places. We carry within us many mental maps that help us find our way round the locations we know and locations where we have never been.² Maps can be pictorial or made with symbols (usually printed maps are both pictorial and symbolic). Maps can also be made out of words, ideas and concepts. These can be called cognitive maps, and they can be powerful tools for learning.

Cognitive maps go under a variety of names. They are known as concept mapping, semantic mapping, knowledge mapping, word webbing, networking, clustering, mind-maps, think-links, idea branches, structured overviews or graphic organisers.³ All such processes that involve the diagramming of thinking can be called cognitive maps. Cognitive maps attempt, visually and graphically, to portray a relationship of ideas or concepts. They are sometimes called concept maps because identifying key words and concepts makes it easier for us to use language, not only to make study notes but also in thinking, learning and remembering.

Memory is primarily a process of making links, connections and associations between new information and existing patterns of knowledge. Memory depends in large part on key words and key concepts that, when properly remembered, are transferred from short-term memory into long-term memory. It is through the linking of information to existing patterns of knowledge that we create new forms of understanding. If we cannot identify key words and concepts, and have not created patterns of understanding then our understanding and our memory become fragmentary – we have not grasped things, we have not created an effective map. In a sense all our knowledge is fragmentary, our understandings are partial. Like fifteenth-century maps of the world there may be large areas of ignorance and incomprehension in our understanding of things. However, there is some terra firma, some firm found-

dations in our knowledge. We can show this by making our thinking visible through words, numbers, pictures etc. and through mapping concept words. Why concept words, and not sentences?

We have become so used to speaking and writing in sentences that we could easily assume that sentence structure is the best way of learning and remembering verbal images and ideas. In recalling information we rarely use a word-for-word verbatim process, we do not re-read from memory what we have learnt. This would be a very long and demanding process. It would be like having to learn and remember play-scripts all the time. We are able to access so many memories because all we need is to remember the key ideas, words or images and we re-create what we remember from these. When people describe a story, event or idea they usually extract the key elements and weave them into a fresh re-creation. Exceptions to this are when specific scripts have been learnt, as in joke-telling – though often here memory will rely on key phrases and images, and the tale will vary in the telling. This is why gossip (and many sorts of news-gathering) is often unreliable in its details. Memory is selective and episodic. We can research this with children through the use of memory games.

TASK 20

Memory games

The following games can serve as an investigation and stimulus for thinking about how memory works.

Chinese whispers

- 1 Put children into some continuous order, such as a circle or line.
- 2 Whisper a message into the first child's ear, so that others cannot hear.
- 3 Each child then passes the message they heard to the next child until the message runs from the first to last child.
- 4 Compare the message that went 'in' to the one that came 'out' at the end of the line.
- 5 Try messages of different complexity.
- 6 Discuss why the repeated message might have changed.

Secret stories

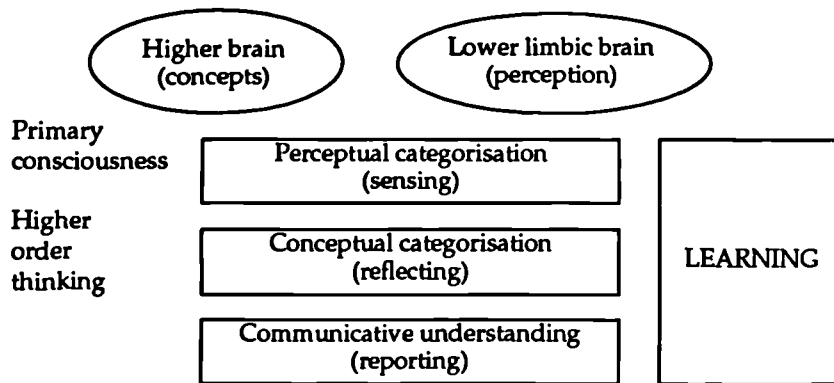
- 1 Go with a child out of the room, and tell a story.
- 2 A second child goes out of the room to hear the story recounted by the first child.
- 3 The first child returns. A third child goes out to hear the story from the second child.
- 4 The second child returns, a fourth goes out and so on.
- 5 After a given number of turns, when the last child is out of the room tell the original version, and invite the last child in to tell the last version as she or he heard it.
- 6 Compare versions and discuss. Are there ways of helping you to remember better?

The world is filled with a rich multiplicity of objects and experiences. We

make order out of the world through transforming our perceptions (what we see, hear, feel etc.) into concepts (words and ideas). We are greatly helped in this process by sharing our experiences and ideas with others. A concept is an organising idea, it is an abstraction that pulls together a lot of facts, attempting to make sense of them by organising them into categories or classes. Concepts help us to classify and order thoughts and experiences, providing the labels that we give to these patterns of ideas. For instance, the scientific taxonomy (category system) for animals on our planet uses concepts such as class, order, family and species to organise our thinking about the creatures we have identified. Concepts group certain facts together to make distinctions and relationships between things. They express patterns of similarities and differences that organise and help to explain experience. They are constructions of the human mind that enable us to make sense of and to learn from experience.

Concepts are the labels we give for ideas that may be simple, such as dog and cat, or which may have complex layers of meaning, such as democracy and revolution. To understand a concept well, it is not sufficient to be given a dictionary or textbook definition. Many concepts have a variety of definitions which help explain the meaning of the ideas contained in the word. Another key aspect of understanding a concept is to be able to see what is and what is not an example of it. Skilled teachers combine these two processes of giving explanations and examples with a third process – that of helping the child to come to a communicative understanding of the concept (see Figure 5.1).

Explanations are important since children often have an incomplete grasp of what adults mean when they give a label to things. Examples are important, for children will often misapply concepts, such as the young child who calls geese and swans ‘ducks’ because they are duck-shaped. We



Conceptual understanding (adapted from Edelman⁴)

do not know, however, even after careful explanations and examples, whether a concept has been assimilated into a child's wider knowledge of the world until we ask the child to represent and to share what they know. Creating a thinking map (or concept map) is one way of representing and communicating their understanding of concepts.

The understanding of a concept can vary enormously between children. What the concept of a colour or number is to a three-year old is very different to what it is to a ten-year old. A nursery teacher may talk of a child 'knowing his colours' when he knows, for example, what is green. The older child will have a fuller understanding of what green is, such as it can be made from yellow and blue, and knows many more examples of 'greenness'. He may know that 'green' is also an abstract term referring to environmental issues. However, his understanding may not be perfect. He may find it difficult to identify green in a painting of the sea, or know that green can be a symbol of jealousy. So learning a concept is not an 'all or nothing' process, it is the building up of successive approximations, of finer distinctions, of a widening network of related ideas, of coming closer to the common understandings of a culture and to the knowledge structure of experts. We increase our understanding by constructing and developing a wider network of meanings.

We make meaning by creating links between words and ideas. We learn more by making more links, by exploring and by testing links. The following task illustrates and provides practice in this process of connecting words and ideas.

TASK 21

Making connections

You may like to try these tasks on yourself before trying them with children.

Random words

- 1 Ask children to suggest any interesting word that comes into their minds.
- 2 Collect about twelve words, and display them on a board.
- 3 They think about the words and try to pair up any two words with a linking idea, e.g. head/hat (hats go on heads).
- 4 Try to find pairs of words in this way, or trios, e.g. horse/feet/helicopter (means of transport), or larger sets or families of words. Work individually or with a partner, allow thinking time, share findings with the group. A possible extension is to try to link all the words in an interesting story or explanatory narrative.

Topic words

- 1 List, or ask children to suggest, the dozen or so most important words on a chosen topic, e.g. Ancient Egypt, pond life or time. As above ask the children to think about the words and try to link them together with a connecting idea or ideas. These can be discussed or displayed in visual form.

'Only connect', said E. M. Forster. Making connections is the way we create an understanding of the world, and is the basic process of all creative think-

ing. Are there any two words or concepts that cannot be linked in the mind with some sort of connecting idea? Descartes suggested that if we knew everything there was to know about anything we would have found out everything there was to know about everything. There is a sense in which all knowledge is threads within a seamless robe. We are just not aware of all the hidden links and connections. We are always in a state of incomplete knowledge, of coming to know, of building on our partial understandings. Throughout life, we are (or should be) constantly developing our conceptual understanding of the world.

Concept development

Vygotsky identified two levels of concept development. The first level is where concepts are spontaneously developed through perceptual and practical experience in everyday activity. These concepts are developed through rich experiences, but they are unsystematic and relate to particular human contexts. The higher level are 'scientific' concepts which are theoretical and structured, and depend on the use of language and learning. Concepts are either:

- spontaneous *learned through direct sensory experience such as learning what an orange is through touch, taste, sight etc., or*
- scientific *abstracted from experience and learned through language, for example, that all oranges have certain common elements such as 'roundness'.*

Scientific or abstract concepts are powerful because they can be applied to different contexts and fields of learning. They can be translated into increased abstraction, awareness and control of thought. These more advanced concepts can easily be cut off from experience and become unconnected with the concepts of everyday life. Hence the need for explanation – explanation from others (learning) and explanation to others (communication). The use of examples helps to embed knowledge in a human context. The use of explanation linked to examples is inductive reasoning and the basis of scientific method.

There are different levels of explanation, for example:

- labelling *giving no explanation, 'things just are', e.g. 'this is an orange'*
- enumerating *giving odd facts, 'this is what they are', e.g. 'there are oranges in shops'*
- making a link *pairing contiguous ideas, e.g. 'oranges grow on trees'*
- identifying common characteristics *e.g. similarities, 'oranges are round, have an orange colour, have pips' etc.*
- identifying concepts as belonging to a class *knowing class name, e.g. 'oranges are fruit/food'*
- identifying concepts as belonging to a pattern or hierarchy of concepts relating to other classes *e.g. orange as fruit/food/plant/living thing*
- identifying concepts as relating to other patterns of concepts *identifying similarities/differences with other classes, e.g. orange related to linguistic, mathematical, scientific, historical, geographical, economic and other conceptual patterns.*

Piaget argued that concepts are organised into 'schemas' or 'models' which are mental representations of things or ideas, and it is through these that we process information. For Piaget, cognitive development was very much to do with conceptual development, and this was often best achieved through cognitive conflict when our existing concepts or 'schemas' are challenged and our existing ideas disturbed. To learn is to change. Cognitive development must entail some change, some re-arrangement or enlargement of the conceptual structure. It is these conceptual structures that underlie skills and understanding. Cognitive mapping is one way that we can try to make visible a conceptual structure, not simply to see what it is, but to process it, to challenge it and to help enlarge it.

Concepts change and become more complex over time, and this process of conceptual development is helped by sharing our understandings and being challenged by the thoughts of others. One way of sharing an understanding of a concept is to list characteristics, and compare, contrast or discuss our ideas with others. For this any concept can be chosen – one that is in the news, one that is under study, one chosen by a child and so on. It can be a simple concept like 'tree' or 'wet', or something more complex like 'anger' or 'democracy'.

TASK 22

Listing characteristics

This can begin as a group or class activity, as a paired or individual activity. It presents that most basic of problem-solving strategies – consider all factors, list all characteristics, find out what you know/find out what others know, and define the concept.

- 1 Choose a concept word.
- 2 Write it on a board, large piece of paper or overhead projector.
- 3 Ask the group to give as many characteristics/definitions as possible of the concept word.
- 4 List all suggestions.
- 5 After listing discuss similarities and differences. Could they be grouped into an order?

Concept mapping

How do you introduce children to the language of concepts? One way is to describe concepts as any word that means something, for example, names of people, places, things, events, ideas. It can help to say that a concept is a word which you can picture in the mind, not a linking word like 'and', 'but' or 'here'. We might say that a concept word has some connotation – it means something. Some words have no connotation, they merely act as connectors with other words, for example, 'the', 'an', 'and'. It is not always clear what a concept word is, or if a fixed meaning can be given to all, or any, words. Must all concepts be clear and open to definition, or are some concepts 'fuzzy' and never fully defined? Who defines what words or concepts mean? Philosophers have argued about the nature of concepts for cen-

turies. Children too can partake in this discussion, at their own level and for the purpose of coming to their own understanding.

The best way to begin introducing concept maps to children is to construct some of your own, first with general topics such as animals or vehicles, then with topics of study in school. The mapping of a subject should help you to think more clearly about it. When you have practised the process you may wish to introduce your pupils to the process. One way of generating initial concept maps with children is set out below.

Generating initial concept maps

- 1 Invite children to close their eyes and ask them if they can see a picture in their mind when you say a familiar word for an object, such as dog, chair or grass. Print these on the board and ask children for more examples.
- 2 Children now close their eyes and see a picture while you say an event word such as raining, running or painting. Ask children for more examples, and write them on the board.
- 3 Explain that words have meaning for us if we can see them as pictures in the mind. Try a few unfamiliar words to see if they can picture them in the mind. (If you have bilingual pupils you might try to introduce a few familiar 'foreign' words to show that people use different labels for the same meaning).
- 4 Introduce the word 'concept' and explain it is a way of describing a word that can be pictured in the mind. Review some words on the board to see if they are concept words.
- 5 Write some linking words such as the, is, are, when, that, then. Ask if these words bring pictures to the mind. Explain that these are not concept words but words that link concepts in sentences. Ask for more examples of linking words.
- 6 Ask the children to read some sentences from a book and to identify the concept words and linking words.
- 7 Ask children to pick a concept word, and begin to list information (brainstorm) about the word as a preparation for making their own concept maps.

The following tasks can help them to explore what concept words are.

TASK 23

Thinking maps

Brainstorming

- 1 Choose a concept word, for example, 'spiders' and ask children to list all the words they can think of connected with 'dogs' (see figure 00). What words do they list?
- 2 Compare their list with a partner. What words are the same, and different? Share with the whole group.
This task is a useful pre-writing, or pre-mapping exercise.

Concept mapping

- 1 After brainstorming/listing words connected to a concept write the concept word in the middle of the board or a page.
- 2 Link the connected words to the central concept word with lines.
- 3 Write along the lines the relationship between the concept and connected words.

Mapping a text

- 1 Give each pair of children a page from a reading or text-book (a text of between 10 and 30 sentences). Ask them to list or mark every concept word they can find.
- 2 How often does the same concept word appear? Which concept word appears most often? Which are the most important concept words (which words could you not leave out for the passage to still make sense?).
- 3 List or mark words that are not concepts, that do not mean anything by themselves.
- 4 Share and discuss.

Listing words and concepts is a useful activity, it encourages fluency and flexibility of ideas, and provides a good basis for writing or for further classification. However, many people find it easier to take in information which is presented in a non-linear form. The brain works in complex patterns which are integrated and interlinked. We are used to receiving information from the world, from pictures and television in non-linear visual patterns. In nature there are no straight lines. Some of us prefer to think in straight lines, as observation of suburban gardens and the pattern-making of children show. Others prefer a more organic visual stimulus, rather than traditional 'lines'.

In a concept map (or mind-map) a key word or concept is one that is linked to many others, and serves as a focal point for making connections with other parts in the pattern. A key concept in the study of nature might be 'animal' or 'plant', and each of these could be linked to a family of related concepts (see Figures 5.2 and 5.3). A pattern working out from the centre of a main idea has a number of advantages in that:

- the central, main or key idea is clearly defined
- the relative importance of ideas can be clearly shown by being highlighted, or put nearer the centre
- links between ideas can be clearly shown
- visual patterning allows for easy overview and review
- the structure is provisional and organic, allowing for additions and adaptations
- the open-ended nature of the process encourages the making of connections between ideas
- each pattern is individual and unique, making it easier to remember, recall and repeat.

The first stage is often the brainstorming of ideas and connections. An important feature of thinking maps is that the *connecting ideas* are made

explicit, either through discussion or through being written along the line that connects the concept words. It is the making of connections visible or explicit that differentiates thinking maps from the simple brainstorming of ideas. The process can be an important aid to learning. Once it has been tried in a class or group with others it can become a learning tool to be used whenever needed and for a variety of purposes. What purposes can this think-mapping serve?

The purposes of cognitive mapping

Cognitive mapping can serve a number of purposes. Three of the main aims or purposes of making thinking visible through cognitive mapping (think-mapping, mind-mapping or concept mapping) are:

- to explore what we know *identifying the key concepts, showing links between ideas and making a meaningful pattern out of what we know and understand*⁵ (see Figures 5.2 and 5.3)
- to help planning *as an aid to planning an activity or project by organising and grouping ideas and showing links between them* (see Figure 00)
- to aid evaluation *helping the evaluation of experience or knowledge through a process of reflection on the key elements of what we know or have done* (see Figures 5.2 and 5.3).

Cognitive maps can provide children with a means to articulate their ideas. They provide a tool for planning and assessing or evaluating what they know. They stimulate active thinking, develop cognitive skills of analysis, categorisation and synthesis, and provide a visual means for communication and evaluation. A major benefit of mapping is that we can use this practical, visually oriented strategy within the context of any topic in the school curriculum. There are a number of different map structures that can help students to represent and organise what they know and can find out. Mapping strategies can allow teachers to cover topics in greater depth, where meanings can be found and created in an organised and ongoing way. A map design can be displayed on a board or transferred onto a transparency and projected onto a screen, that can be viewed, adapted and developed over time. Mapping provides a framework which can be added to, over time. Mapping provides a whole language framework in which all the areas of language skill – speaking, listening, reading and writing, can be used in meaningful ways.

Rather than supporting a passive teaching/learning environment, mapping encourages children to be actively engaged in thinking, to elaborate and build on ideas. They not only receive information, but need to re-think it, interpret it and relate it to their schemas of understanding. Mapping can help information flow to, from and among pupils and teachers. Most importantly children learn a procedure for investigating, visualising and organising information. Learning to organise ideas is an important pre-writing strategy,⁶ and is an important study skill in helping to understand the structure of any text they read.⁷ Mapping can be used in all curriculum areas.⁸ In addition, with mapping pupils and teachers

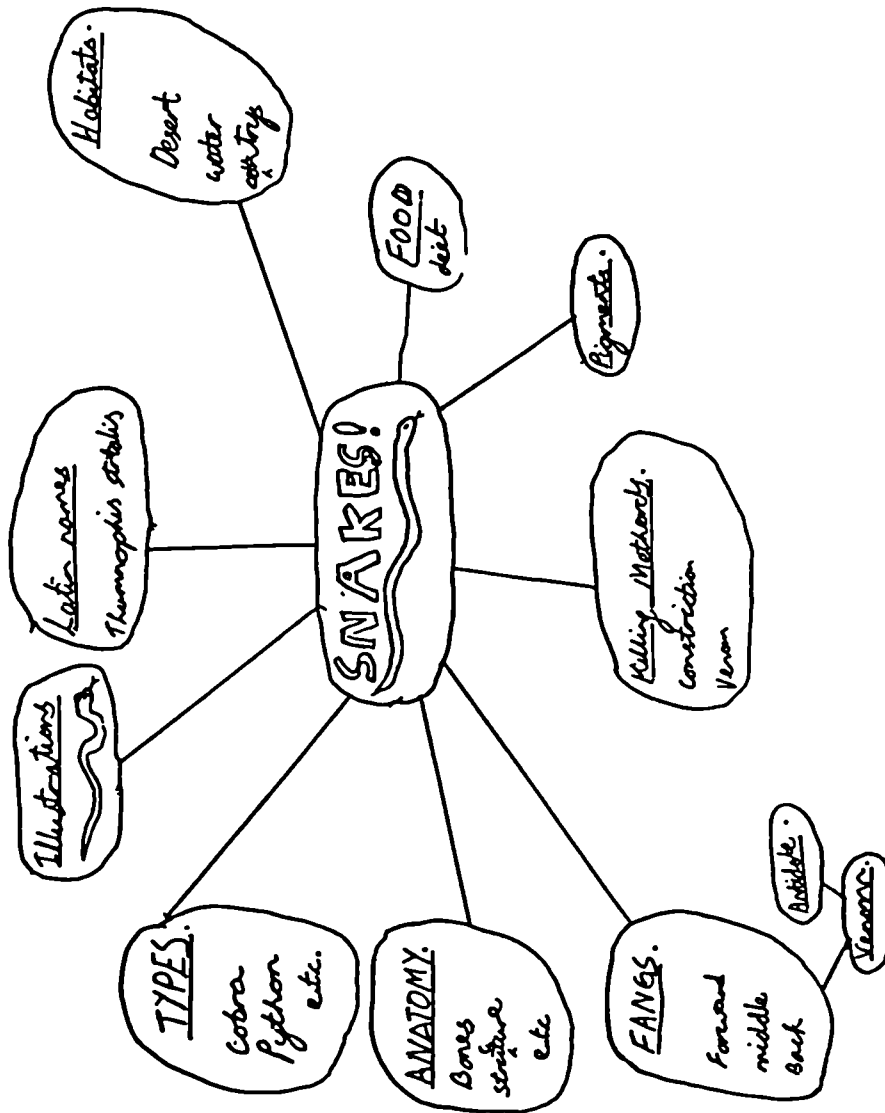


Figure 5.2 A cognitive map of a project about snakes

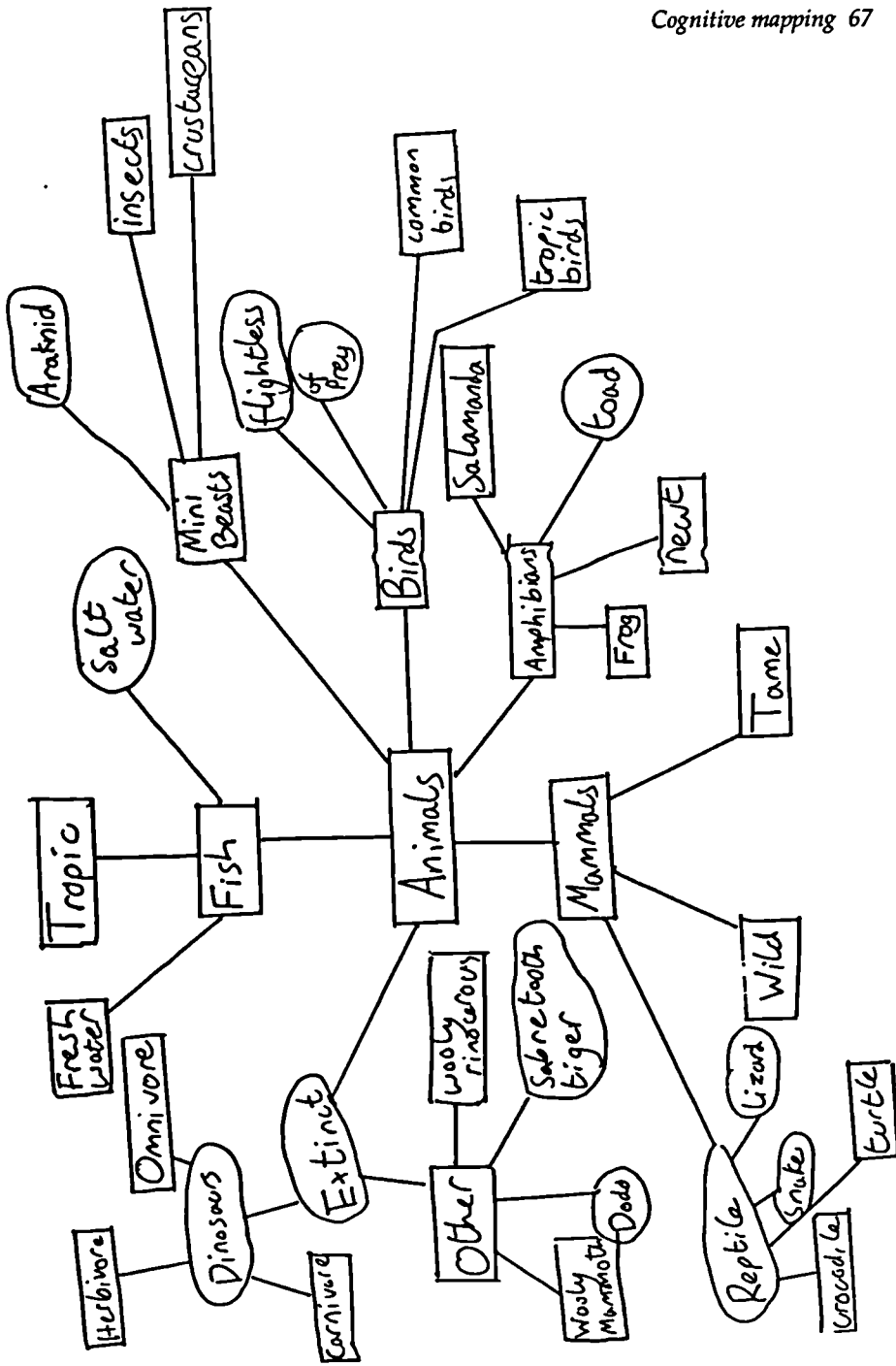


Figure 5.3 A cognitive map of a project about animals

have the opportunity to use computers to reinforce the skills of both mapping and of learning curriculum content; because mapping is a highly visual and spatial activity, the computer is an excellent medium to display a network of visual information. What then are the forms that think-mapping can take?

Forms of mapping

A map visually consists of an arrangement of shapes such as boxes, circles, rectangles, triangles etc., connected by lines and/or arrows drawn between and among the figures. The map conceptually contains verbal information within and between the shapes to create a pattern or relationships of ideas. The aim of the map is to show how the whole topic in question can be portrayed. There are several forms that this mapping can take.

Hierarchical concept mapping

Simple concept maps create a semantic web from a simple idea or key concept. A more advanced strategy is to map concepts into a hierarchical form. A hierarchical concept map shows pupils how to represent a hierarchy of ideas within a given topic and to show the relationships between them. Research shows that children as young as five years can create hierarchical concept maps of a simple kind, but it is not usually until around ten years that children produce maps that show quality and complexity of thinking – and it is around this age that some teachers have found group work on hierarchical concept mapping to be most beneficial.⁹

The following are some tasks to help develop children's understanding of concept mapping.

TASK 24

Hierarchical concept mapping

Listing hierarchies

- 1 Make a list of ten or twelve words related to a concept, e.g. seaweed, plankton, fish, shark, plants, mammals, shoals, coral, whales, waves, tides, currents.
- 2 Ask children to guess the concept that relates to all the words, e.g. sea.
- 3 Build a concept map by organising the concept words from the more general to the more specific concepts in a visual hierarchy.
- 4 Ask children to add words, and show cross links if they can.

Creating hierarchical maps

- 1 List words on a chosen concept, e.g. dogs. Ask children to rank them from the most general to the most particular, e.g. animals, four-legged, canine, dogs, wild/domestic etc.
- 2 Ask children to create their own hierarchical concept maps. Give several lists and let the children choose which list they want to map.

Mapping stories

- 1 Choose a familiar story or excerpt from a story.

- 2 Help them to prepare a list of concepts from the story.
- 3 Reorganise the list from the most important to the least important in the story.
- 4 Discuss the list and help them create a concept map from the story.

Mapping chosen topics

- 1 Ask children to prepare a concept map on any topic, e.g. sport, hobby they knows well.
- 2 Display/share maps, encouraging positive comments.

Knowledge maps

Staring at a textbook is one of the most inefficient ways of learning facts. It is when we are actively processing the facts, doing something with them, that they are likely to stay in the memory. Creating a knowledge map is a technique that can work well when there are a lot of facts to learn, as in science, geography or history.

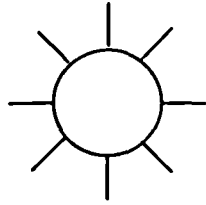
Here is one way of helping a young child or group of children to create a knowledge map.

- 1 Provide some plain cards, e.g. postcards, some coloured pens and reference materials such as a textbook, a reference book, lesson notes or a computer database.
- 2 Select twelve (or more) different facts on a topic of research and write each one on a card using as few words as possible, and using different colours for the words, drawings, numbers etc.
- 3 Lay out the fact cards on a table or floor. Arrange them in any shape you wish e.g. tree, circle, line, ladder etc. so they make a connecting pattern.
- 4 Play a memory game. Turn all the cards over, except one. Ask children to test each other. Can they choose a card, and remember what it says? Check by turning over the card.
- 5 Display and discuss the knowledge map design, e.g. by gluing the cards onto a chart, or by keeping the cards loose, e.g. in a file so that pupils can experiment with different map designs and can add more fact cards to the collection.

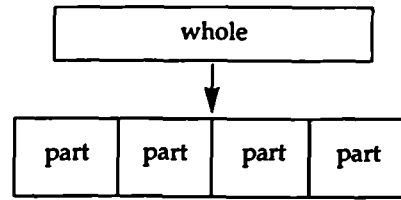
Graphic organisers

Children should be introduced to a variety of ways of organising information in graphic form. In having experience of different ways of mapping information they will have a means of processing any information for better understanding, but also will be able to utilise their preferred way of making thinking maps. Research shows that there is no one way that is best or which suits all people. Some prefer a linear arrangement, some geometric forms, others more free flowing organic structures. This has a lot to do with individual learning style, as well as the experience of the learner. Which ways of organising thinking have you tried? Which suit you best?

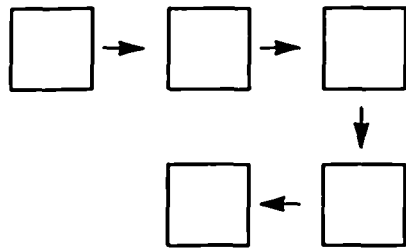
Graphic organisers and other forms of cognitive mapping can provide a good focus for co-operative learning and can engage students in the shared processing of information and ideas in many ways.



Spider chart or web



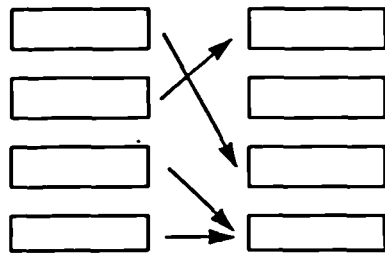
Part/whole relationships



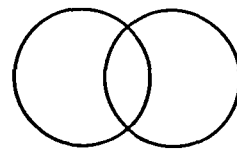
Sequence chain



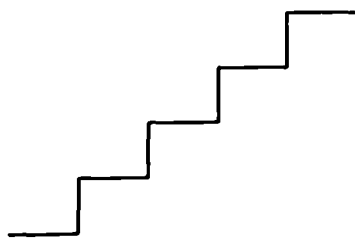
Sequencing or ranking



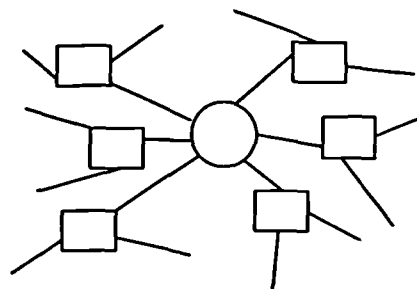
Linking



Grouping in sets (Venn diagram)



Sets



Networking

Figure 5.4 Some graphic organisers

Ways in which graphic organizers can help students include:

- using cognitive mapping as a group activity to create a common frame of reference for thinking
- using a cognitive map as a tangible outcome of group discussion.

Cognitive mapping will not only help students to remember more, and provide opportunities for 'higher order' processing of information, it also provides opportunities for shared and co-operative thinking that can be both stimulating and enjoyable. The use of cognitive mapping can teach students how to shape, organise and communicate their thinking. As one child put it: 'I like seeing what I think, and I like seeing what others think.' Another added: 'It is easier to show what you think than to say what you think.' A third said: 'It gives you a chance to see what you think first and to think about it afterwards.' Wherever they want to go, or whatever they need to learn, knowing how to make a map could help them to find their way.

Summary

Cognitive mapping can be a powerful aid to memory, understanding and concept development. Concepts are organising ideas that help us make sense of the world, and a child's learning is developed through organising information and ideas into patterns and frameworks of understanding. Graphic organisers and other cognitive mapping strategies help students to represent thinking in visual form, to depict relationships between facts and concepts, and relate new information to prior knowledge. Mapping can take many forms and be used to support a wide range of contexts for learning. Cognitive mapping can also provide a focus for group discussion and be a means to facilitate co-operative learning.

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6 Divergent thinking

Creative thinking can help children make learning their own

To him whose elastic and vigorous thought keeps pace with the sun, the day is perpetual morning.

Henry Thoreau

I learn best when I learn in my own way.

Child, aged nine

A class of young children were being taught about the importance of dental hygiene, and the risks of needing to have false teeth when they were older. One of the children responded: 'My grandma doesn't need false teeth'. 'Do you know why not?' asked the teacher. 'Yes,' said the child, 'she's dead.'

We become creative when we are able to look at things from a new perspective. Einstein, who believed that the key to learning was flexible thinking, said: 'To raise new questions, new problems, to regard old problems from a new angle requires creative imagination, and makes real advances'. According to Piaget, 'to understand is to invent'.¹ We make knowledge our own 'by reconstructing it through some creative operation of the mind.' 'The mind once stretched by a new idea', said Oliver Wendell Holmes, 'never regains its original dimensions.'

Any learning that is not routine needs creativity. Unless the learner has complete knowledge of an area of learning, then creativity will be needed to help develop, adapt and apply understanding that is at present partial or incomplete. When knowledge is complete, we have no need to process it further, there is no need to think things through. To take account of new knowledge, develop new ideas, or design solutions to new problems requires creative thinking. Creative or divergent thinking offers the chance to see more in any situation.

One of the reasons that creativity is needed in learning is that intelligence alone is not sufficient to realise learning potential. Intelligent people are not necessarily successful at thinking and learning. They may fall into what Edward de Bono calls the 'intelligence trap' of making instant judgements, of jumping to conclusions, without taking time to think about and explore alternatives. They may close off the opportunities to think and learn more. This impulsivity, or tendency to premature closure, is a characteristic of under-achieving children at all levels of intelligence. Thinking is defined by de Bono as 'the operating skill with which intelligence acts upon experience'. One of the characteristics of skilful thinking is exploration, the ability to explore a situation before making a judgement. These thinking skills are not automatic, but they can be developed.²

Creativity, intelligence plus achievement

Creativity seems to be a capacity that is separate from intelligence, and the ways in which these combine can lead to very different learning styles and levels of achievement. Researchers have compared samples of children with high and low scores on tests to measure intelligence and on tests to measure creativity covering educational, psychological and social dimensions. Their findings are summarised as follows:³

- high creativity plus high intelligence *These children can exercise within themselves both control and freedom, both adult-like and child-like kinds of behaviour.*
- high creativity plus low intelligence *These children are in angry conflict with themselves and with their school environment and are beset with feelings of unworthiness and inadequacy. In a stress-free context, they can blossom forth cognitively.*
- low creativity plus high intelligence *These children can be described as 'addicted' to school achievement. Academic failure would be conceived by them as catastrophic, so that they must continually strive for academic excellence to avoid the possibility of pain.*
- low creativity plus low intelligence *Basically bewildered, these children engaged in various defensive social activities and regressions such as passivity or psychosomatic symptoms.*

Research suggests that creativity is an important element in the achievement of some children whatever their intelligence or social background, and that creative thinking and doing can help develop the potential both of individuals and of human institutions such as schools or commercial organisations. But how do we assess and develop creative thinking?

Assessing creative thinking

The mind is an attention-focusing device. We become creative when we can vary and extend the focus of attention, when we are able to see and think of possibilities beyond the given information. We construct, we invent, we play with ideas. We have different capacities for creative thinking, and these capacities can be expanded and developed through practice. Typically this kind of divergent thinking comes in focused bursts, in response to a stimulus. But how good are we, or our students, at creative thinking?

Various tests have been designed to practice and to assess levels of creative thinking. The following are examples of three kinds of test:

- a drawing test where students are asked to create a design from a simple given drawn shape or pattern
- a visualisation test where students are asked of a given drawing: 'What is it?' and try to list as many different possible items the drawing may be trying to represent
- a verbal test where students are asked, e.g. to generate creative ideas from a given verbal stimulus. 'How many uses can you think of for a ...?'

Drawing test

The following example is from the Torrance Tests of Creative Thinking (figural section).⁴

- 1 Give each student a sheet of A4 with a set of 20 circles arranged in orderly lines on each side of the page, making a total of 40 circles.
- 2 Invite them to draw as many interesting and unusual things involving the use of a circle as they can in ten minutes. If necessary give an example, e.g. a self-portrait. How many different things can they draw?
- 3 Ask them to put a caption under each drawing (optional).

Torrance suggests this test can be used to assess what he identifies as the four dimensions of creative thinking:

- *fluency the number of different ideas generated. Assess this by counting the total number of different things drawn (a drawing can use just one or many circles)*
- *flexibility the number of different categories of ideas. Count the number of different categories used, e.g. ball/football/other balls would be one category*
- *originality the divergence of ideas from conventional or common choices. Score each drawing 0, 1 or 2 for originality. If everybody draws the same thing, e.g., a face, score 0, if only a few draw it, e.g., a screw, score 1, if only one person draws it, e.g., a lamp base, score 2. The total score is the originality rating*
- *elaboration the detailed expression of ideas. Assess the amount of detail given in each picture. This is very difficult to mark objectively.*

Ask students to give themselves a score for fluency and flexibility, to identify their most original ideas and to compare across the group. Torrance found that high scores in Originality and Elaboration gave the highest correlation with creative ability. He also found some very individual creative responses did not score highly on these measures, such as those of a child who incorporated all the circles into a bee's honeycomb!

Visualisation test

What is a visualisation test?

An example of a visualisation test is the following: Look at the shape below and list as many things as you can think of that the shape might represent.

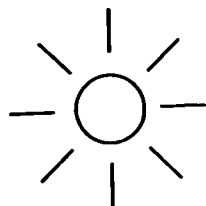


Figure 6.1 An example of a visualisation test

The suggestions from a group of children in response to this test included: sun, moon, star, light, torch, light, octopus, raindrop, well, spider's web, wheel, water splash, dandelion, volcano, explosion, firework, hair rising, button, bell, seed, bullet-hole, bottle top, loudspeaker, moon crater, satellite, compass, eye, jet engine, ring, fountain, electricity, cog, water wheel, flower head, squashed spider, happiness, roads, head-dress of the Statue of Liberty and legs sticking out from under a parasol.

Verbal test

How many uses?

An example of a verbal test of divergent thinking would be a question like: How many alternative uses as can you think of for a familiar object such as a blanket, barrel, brick, sock, paper clip, a shoebox, an elastic band, a human hair, toothbrush, compact disc, milk bottle, sock etc.?

These tests can be conducted with students from age eight to adults, but its use in identifying creative potential is highly debatable. Such tests can, however, provide a useful focus for exercising creativity, and for discussing creativity and the criteria used for judging it. In this kind of test there is no right answer, assessment is subjective and tests or re-tests often produce widely diverse scores.

Developing creative thinking

Torrance suggests that creativity is 'a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies, testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results'.

Creativity is a form of intelligence that can be trained and developed like any other mode of thinking. It is not merely a question of playing with things, of randomness or chance, but, at its best, has to do with serious and sustained effort in thinking about any area of learning.

The most widely used creative thinking programme is Edward de Bono's CoRT Thinking,⁵ which consists of a number of 'tools' applicable to a wide range of teaching situations. The tools are simple but powerful strategies for getting students to think more widely, to promote deeper reflection, and to avoid impulsivity. They represent a systematic summary of the most productive strategies in developing divergent thinking. The following is a brief overview of seven of the 'tools' and their acronyms devised by de Bono for his CoRT programme.

CoRT thinking tools

- CAF Consider All Factors
- FIP First Important Priorities
- PMI Plus, Minus, Interesting points
- C & S Consequences and Sequel
- AGO Aims, Goals and Objectives

APC Alternative Possible Choices
OPV Other Points of View

Consider all factors (CAF)

Creative thinking is about generating ideas and increasing the breadth of perception. Instead of a narrow focus we try to review the whole field. CAF is a tool which aims to expand the focus of attention. What factors should we consider in this situation? If we want children to have the ability to take in many things, things which are within the situation and things outside relevant to the situation, things now present and things that may happen in the future, children will need to have experience in broadening their perception, to look beyond the given, and to consider all factors.

In using CAF as a tool for learning, what is important is not simply the process of brainstorming ideas, but that we have an attention-directing tool that encourages thinking time. As with all tools, skill in use requires practice and familiarisation (for example by having the acronym written on a chart or bookmark). The more the tool is used in a deliberate manner the more useful the tool becomes by being internalised through practice.

My research with junior-age children shows that CAF, like other tools of de Bono, is quickly forgotten if used only once. But, if repeated in a variety of learning contexts over a period of time, it becomes a 'thinking frame' that is remembered and used.

- Can you do a CAF?
- Have you done a CAF?
- Should we do a CAF?

CAF is a simple tool, but is powerful if it is done well. It is an ideal strategy for when you have to choose or make a decision, for it encourages you to withhold judgement and to reflect on all factors. The following tasks can provide practice in the use of the CAF technique.

TASK 25

Considering all factors

On your own, or with a partner, make a list of factors for each of the following:

- 1 Your family have decided to move to a new home. What factors should they take into account in deciding on a new home?
- 2 You are choosing a summer holiday. What factors should you keep in mind?
- 3 What factors make for a good teacher?
- 4 What makes for a good story? List all the factors that might be included in writing a good story.
- 5 You are designing a chair. What factors should you take into account?

First important priorities (FIP)

FIP is simply a prioritising tool which directs the attention to thinking

about priorities. Not all factors are of equal importance. Some things are more important than others, some values are more important than others. Priorities are things that should be taken into account in planning and reviewing what has or should be done.

- Are there a lot of things that are important?
- Which are most important?
- What are the priorities?
- Are your priorities the same or different from mine or other people's?

In reviewing a list of factors, for example, in choosing a holiday, we may think that all the factors are priorities – and a case can be made for the importance or value of most things. The role of FIP (or any prioritising strategy) is that it forces us to make choices and to decide what the really important things to consider should be.

In doing a prioritising exercise it is useful to set a limit on the number of priorities, for example, three, four or five. The above CAF tasks can be extended to consider what are the most important priorities in each list.

The following task provides further opportunities for considering priorities.

TASK 26

Deciding priorities

Make a list of factors and then prioritise three or four items in order of importance.

- 1 In choosing a friend what are your first most important priorities?
- 2 A sum of £1000 has been given to improve your school. What would be your priorities in spending the money?
- 3 What do you think are the most important factors in choosing to buy a new bicycle?
- 4 What rules should a school or class have? Which are the most important?
- 5 What should parents consider in choosing a school for their child? Which are the most important points to consider?

Deciding on priorities can be used in all learning contexts which require planning, analysing or evaluating. For example, in studying *Romeo and Juliet*, students might analyse the couple's decision to marry by considering all factors (CAF) and, then, prioritise the factors that lead to the decision (FIP). After prioritising the factors, students could then consider each factor in terms of its advantages, disadvantages and points of interest (a strategy de Bono calls PMI).

Plus, minus, interesting points (PMI)

'Think before you leap,' says de Bono, and PMI is a strategy that aims to force us into thinking about any situation before coming to a judgement about it. The process involves listing all the good points, bad points and interesting points about a given idea, object or event. It is one of the most effective tools for directing attention to and generating thinking about

different aspects of a topic.

'Plus' relates to the positive elements of the topic, 'Minus' to the negative elements, and 'Interesting' to those points that are neither good nor bad, but are regarded as neutral observations, comments or points of interest.

- I'm not sure about this, let's do a PMI.
- To find out more about what we think let us do a PMI.
- There are two options – let us do a PMI on each.

PMI is a useful evaluation tool that can be used to generate thinking about any situation or piece of work. Pictures, objects or texts can be subjected to creative analysis using the PMI method. The following are examples of activities with which to practice divergent thinking using PMI.

TASK 27

Assessing positive, negative and interesting points

Make a list for each category of good points under 'Plus', bad points under 'Minus', and 'Interesting' points about a given topic.

- 1 Attendance at school should not be compulsory for any child.
- 2 People should wear badges to show if they are in a good or bad mood that day.
- 3 All seats should be taken out of buses.
- 4 Think about what you have done today, yesterday or during the last week. What were the positive, negative and interesting points in your life during this time?
- 5 Choose a book, picture or television film and do a PMI on it.

Consequences and sequel (C & S)

All our actions and decisions have consequences. Often these consequences go unconsidered. As Socrates said, many of us lead 'unexamined lives'. In considering a course of action, for ourselves or by others, we need to consider the consequences. Young children are egocentric, they think primarily of themselves, and they live in the present and find it difficult to project themselves into the future. Considering the consequences invites children to speculate, and to predict along a time scale into the future.

Consequences occur along a time scale which can be:

- immediate *what may happen as an immediate consequence*
- short term *what may soon happen in a short period of time*
- medium term *what may happen after some time when things have settled down*
- long term *what may happen much later.*

Important concepts of possibility, probability and certainty are involved in considering questions like those listed below.

- What outcome are you sure about?
- Will it always turn out like this?

- What else could it be like?
- Do we know what will happen?
- What do you think will happen? Why?

Part of assessing possible consequences is working out not only what will happen, but also the risks involved – what might upset our prediction and alter the consequences.

- What are the dangers?
- What might go wrong?
- What is the worst thing that could go wrong?
- What is the ideal (best) outcome?
- What is the most likely outcome?

Here are some activities to encourage consideration of consequences.

TASK 28

Considering the consequences

Make a list of consequences for each of the topics below. Specify a time scale for each consequence, for example, less than a year, 1–5 years, 5–15 years, or over 25 years.

- 1 The discovery of America by European explorers.
- 2 The invention of computers.
- 3 The world runs out of oil.
- 4 The greenhouse effect makes the earth's atmosphere much warmer than at present.
- 5 Scientists discover a cure for every known illness.

Sequels also provide good starting points for divergent thinking. A question like: What do you think will happen next? could refer to the next page, episode, book, picture, design, action or idea. Begin a story and invite the child to continue it. Or invite the child to say what might have happened before a story, what happened in the past, during the antecedent period, what was the prequel? We can help children to think more widely in time, past (prequel), present and future (sequel), and more deeply at the causes and consequences of things. An understanding of these concepts is a gradual process but they can be powerful tools for understanding about how and why things change.

Aims, goals and objectives (AGO)

'Why are you doing this?' is a question we can ask of ourselves or others. When children are asked this question in school they often find it difficult to give a clear answer. The most common answer is 'because my teacher told me'. Children do things without knowing why. They inhabit an environment whose purpose is activity but they do not know the reasons for this activity. They live in a moment-to-moment world where the pattern and purpose of their learning is not clear. They often do not know the focus of their learning or the aim of their learning activity.

AGO is related to broadening perception by seeking to identify the purpose of our thinking and learning. Trying to explain the distinctions between 'aims', 'goals' and 'objectives' may not be time well spent. What is important is knowing what one is trying to achieve.

- What are we trying to do?
- What do we want to end up with?
- Why are we doing this?
- What is the purpose?
- What objective are we trying to achieve?

The following are some activities that focus on defining aims.

TASK 29

Defining the aims

Make a list of what you think the following may be trying to achieve.

- 1 A football team.
- 2 Someone in your group who is telling lies about you.
- 3 You are designing a new type of house. What are your aims?
- 4 Your parents, or your teacher.
- 5 You, in going to school.

Alternatives, possibilities, choices (APC)

The world is full of alternatives, possibilities and choices, but we do not always see them. This is especially true of the learning child, who often comes to believe there is only one answer, only one right way to do things. We need to be alert to alternatives, to possible new directions, and to have the courage to sometimes choose 'the road less travelled by'. We talk of being 'blinkered', and of 'tunnel vision'. As learners, we talk of 'getting stuck', and of not knowing what to do, where to turn, which way to go. If children value the practice of seeking alternatives they will be better placed to generate options when they need them.

There are many sorts of alternatives:

- viewpoints *looking at the same thing in different ways, from different viewpoints*
- actions *seeing alternative possible courses of action in a given situation*
- solutions *being aware of alternative solutions to a problem*
- ways of working *realising that there are different ways of tackling a problem*
- explanations *suggesting alternative explanations and hypotheses to explain how something happened*
- plans *devising alternative plans for approaching a task*
- designs *creating alternative designs for meeting a need or purpose.*

Encourage children to look for alternatives, to be alert to the multiplicity of possibilities. Support the belief that they always have a choice. If one way does not work look for alternatives. If there seems to be only one way, look for alternatives. You may not find them, but your approach is intelligent. As one child commented: 'There is always a different way, even if you can't find it'.

The most difficult thing to do is to check and look for alternatives when you do not have to. We do things out of habit, we work mindlessly. What can help us to be more flexible in our thinking, and more alert to possibilities? The following are some questions that may help.

- Is there another way?
- Can we come up with an alternative suggestion?
- Is there a possibility we have not thought of?
- What other choices have we got?
- Have we considered all the options?

When we begin to look for alternatives we should be clear about the purpose of the alternative. The following tasks provide sample ways in which the process of looking for alternatives can be encouraged.

TASK 30

Seeking alternatives

Make a list of options, alternatives and possibilities to help in making a decision about the following problems or situations.

- 1 You discover your best friend is a thief. What alternatives do you have?
- 2 As you walk along the street you see a woman collapse to the ground. Why could this have happened? What could you do?
- 3 A car is found crashed in a ditch. There is no driver. What happened?
- 4 Some places are dirty because people drop litter and cans everywhere. What could you do to solve this problem?
- 5 You and your friends decide to raise money for charity. Which charity? What could you do?

Other points of view (OPV)

One way to broaden perception is to try to see things from another person's point of view. For the child, and perhaps for us all, this is a difficult challenge. It requires an ability to listen to the views expressed by other people, and to make an imaginative leap to understand their feelings and ideas. This leap of imagination is fundamental to moral development, and to an understanding of others (interpersonal intelligence).

An obvious way into thinking about other points of view is to consider both sides of an argument or conflict. It can be fruitful, when stopping a quarrel or fight between two children, to get each to state their own point of view without the other interrupting. Stories and drama also provide good opportunities to look at different points of view.

- Does everyone think the same thing?
- What do you think? What does she or he think?
- What do the others think?
- What are they feeling? Why?
- What do you think is going through his or her mind or their minds?

The following are some tasks which aim to encourage seeing things from

another's point of view.

TASK 31

Recognising other points of view

List what you think the views are of different people in these examples:

- 1 A father and mother forbid their son and daughter to stay up past ten o'clock to watch a television programme they want to see. What are the different views of the parents, and children?
- 2 Someone wants to sell you a second-hand bicycle. What are their views, and your views?
- 3 You lend a friend some money to buy a lottery ticket. Your friend wins a prize with the ticket. Who does the prize belong to? What might be the different points of view of you and your friend?
- 4 A burglar breaks into your house and steals everything of value that can be found. Your parents call the police, who say they will try their best to catch the thief. What are the views of your parents, the burglar and the police?
- 5 Choose a book, picture or video programme and list the different thoughts, feelings and points of view of the characters.

Creative thinking can be learned and developed. All forms of study should allow for some use of creative, divergent or lateral thinking. 'You cannot dig a hole in a different place,' says de Bono, 'by digging the same hole deeper'. Trying harder with the same ideas and same approach may not solve the problem. This is especially so with those having trouble with learning. They may need to move laterally to try new ideas and a new approach. Lateral thinking includes a number of methods for escaping from established ideas in order to find new ones. Children should be given the chance to think in new ways – but how?

Provocation

One way is through provocation, what creative thinking guru Roger von Oech⁶ calls 'a whack on the side of the head'. He argues that we need to be whacked out of habitual thought patterns and provoked to look at what you are doing in a new way. The word 'po' has been coined by de Bono to describe a similar kind of 'provocative operation'. One technique is what Victor Quinn calls 'provocation in role', which entails the teacher or other 'agent provocateur' playing the devil's advocate in discussion with children by challenging all or any received moral and scientific assumptions with a view to building up a child's confidence and resilience in argument. A provocative statement is any that will stimulate creative thought, response or discussion.

Examples of provocative statements might include.

- There is no point in going to school.
- Nothing is true.

- I can do whatever I want.
- A triangle can have four sides.
- Adults know more than children so what they say is never wrong.

What provocative statements can you create to get your children thinking and responding?

What If ...?

You see things and say, 'Why?' But I dream things and say, 'Why not?'

G. B. Shaw

What if animals could speak? What if we could live forever? What if the earth stopped revolving and the sun did not arise? 'What ifs' provide a wishful thinking kind of provocation by adding some impossible feature or by picking out some feature of an item and imagining it was missing. The following are some examples of such statements.

- What essential features of the following could you imagine leaving out of – a house, school, bicycle, library, birthday? What if your house had no ...?
- What features could you imagine adding to – school, parents, clothes, sleep, sports – Wouldn't it be nice if?

Can you or your children create ten 'What if....' impossibilities. Choose, draw and discuss your most interesting idea.

Synecotics – making the familiar strange

An important element in creative problem solving is making the familiar strange – looking at the same problem in different ways. Synectics research identified three methods of creating metaphor for helping to see the familiar in new ways.⁷

- direct analogy *making a simple comparison, for example, How is a teacher like a tuna sandwich?*
- personal analogy *imagining being the thing, for example, A candle is not alive, but it looks alive when it burns. How would you feel if you were a candle burning in a camping tent?*
- symbolic analogy *creating a compressed conflict (oxymoron), for example, What is an example of a careful collision?*

Carl Sandburg, the American poet, once said: 'Poetry is the synthesis of hyacinths and biscuits'. Here, he was taking two unrelated words or images and putting them together to make the familiar strange. One way of doing this is to take two unrelated words or ideas and try to join them with a linking thought. If we say that what we think about one thing is also true of another we are reasoning by analogy. Children can be encouraged to create an analogy by asking questions such as: What is similar to this object? How are they similar? What do you know about one object that might be true of the other?

Examples of students creating metaphors about themselves are:

- I am undiscovered gold lying in the hills, waiting to be discovered.
- I am like a grape, just one of a bunch, but I am full of juicy goodness.

- I am like a pawn in a game of chess, but without me the game would not work.

TASK 32

Creating metaphor

Think of as many answers as you like for these questions. There are no right or wrong answers.

- 1 What answers can you find for these riddles.
 - Why is summer like a bridge?
 - Which animal is like a rubber band?
 - Which colour is quickest?
- 2 Create more metaphorical riddles of your own by linking two seemingly unrelated ideas.
- 3 Make up some metaphors (or analogies) about yourself.
 - What kind of food are you?
 - What kind of furniture are you?
 - What kind of animal are you?
- 4 Think of some more categories, and make up some more *metaphors*.
- 5 Create some more metaphors about yourself.
 - What is your mind/brain like?
 - What is your life like?

Some ideas for activities that can help develop creative thinking are set out below.

Link-ups

Choose any word. Write it down. Look at it and write the first word that comes into your head that is somehow associated with it. Continue to add words, building up a sequence of associations. See how long you can keep the chain going. Or say the words out loud while your partner scribes them. A more challenging version of this activity is to try to reach in a chain of association a very different word from the first word.

Picture this

Choose a reproduction of a painting. Write any words that come into your mind when you look at the picture. Try weaving a story round the image. Describe the picture without showing it to your partner. Can they visualise it? Visualise a picture that they describe, and draw it from their description.

Picture construction

Scatter dots over a page. Reproduce several copies. Create pictures using the dots as starting points.

Story ending

Any problem can have several solutions, so any story can have more than one ending. Read a short story, stop halfway through, and complete the

story yourself. How many endings can you devise? Which is best? Why? The following is reputed to be the shortest science fiction story in the world:

After the last atomic war, earth was dead; nothing grew, nothing lived. The last man sat alone in a room. There was a knock on the door

Can you continue and complete the story?

Poetry pieces

From an anthology or poetry books write lines or fragments from different poems on slips of paper (a pair or group can combine their efforts). Select at random some slips of paper. Read the fragments of poetry. Try to visualise what they are about. Try to compose a poem (or piece of prose) using one or more pieces of poetry and your own words.

Hear this

Shut your eyes while you listen to a new piece of music. What picture(s) come into your mind? What words come into your mind? What title would you give the music? What does it make you feel or think?

Sentence making

Choose four or five different initial letters, for example, W C E N. How many sentences can you generate using these four letters? for example: We can eat nuts. Alternatively, choose five letters, for example, E G B D F. This is a test of verbal fluency.

Common problems

What problems might arise in – taking a bath, getting up in the morning, cooking a meal, going to school or work, watching television, playing with friends, buying shoes etc.? Share problems, suggest solutions.

Improvements

How could you improve, for example, a door, a desk, the human body, school, law and order etc.

Create a character

Choose a person you would like to be. What is your name? What do you look like? Where do you live? What do you do? What are your likes and dislikes? What is your story?

Summary

Children can be helped to gain more from any learning situation if self-expression and creativity are encouraged. One of the defining characteristics of creativity is the ability to generate and explore alternatives. In practice this means encouraging a divergent range of responses, to allow for individual patterns and styles of learning. Creativity is not directly related to intelligence, but is a separate set of skills – including visual and

verbal skills – that can be developed and, to some extent, assessed. A number of creative thinking techniques and teaching strategies, have been found helpful in developing divergent thinking. A creative interplay of ideas can enhance the child's capacity to learn by extending perception, helping the child see more in any given situation.⁸

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7 Co-operative learning

Learning together can develop social and cognitive skills

What a child can do in co-operation today, he will be able to do alone tomorrow.
Vygotsky (1962)

I used to hate working with other people. Now I've worked in groups, I only hate working with some other people.
Child, aged eight

Wayne was struggling with his reading. A rather quiet and withdrawn eight-year old, he was finding it very difficult to progress beyond the most basic of reading books. He was the least able reader in his class, and his teacher was worried. A new idea had been tried in a local school. It was called peer tutoring, which meant that children worked in a structured way with a more able partner. So Wayne was paired with an older fluent reader – and they read together for fifteen minutes a day for a term. 'At first', said his teacher, 'there didn't seem to be much progress, but by the end of the term Wayne had really taken off.' Wayne put it down, not to his teacher, but to his 'reading friend'. He had learnt about reading and also something of the value of co-operative learning.

Every child is different. Even asking a simple question like: 'What are clouds made of?' will elicit a range of responses from a group of children. Each child has their own store of knowledge, ideas and experiences that she or he uses to make sense of the world. Each child has unique abilities and a learning style all their own. Should the child then be best viewed as an individual learner, as an 'active scientist' exploring the world and developing increasingly complex structures of individual thought? If all learners are individuals should all learning be individualised learning?

In the 1960s, there was a big movement towards individualised learning. It was called programmed learning and had a simple rationale: every child is individual and each has different needs, so each requires an individual programme to work through. Machines were devised and boxes of work-cards and workbooks produced to allow each child to interact with the programme in his or her own way. Some good programmes were written, and they produced efficient learning outcomes. But these programmes became less effective with continued use, if they were not mediated by a teacher. Many of the materials simply invited 'busyness', for example, completing blanks in given sentences. The work was often repetitive and superficial, with little evidence of learning or thinking. The decisive influence on the success of such programmes was not the machine or the materials, but the mediating influence of another human being. Learning can be an unassisted

activity. A child is given a load of bricks, a student presented with a problem, an adult given a recipe or set of instructions, and each one can respond to and relish an individual learning situation. But most learning takes place in a social context – as Bruner says: ‘Making sense is a social process’.¹ For Vygotsky, social interaction has a central role in a child’s education.² It is through being with ‘knowledgeable others’ that a child’s potential for learning is revealed. These knowledgeable others can be anybody – parents, siblings, friends, peers, teachers or other adults. Parents are usually the primary caretakers, but anyone can act as a caretaker of a child’s learning.

Much of our learning is founded on co-operatively achieved success. With others, we can do more and achieve more than we can do on our own. The reason why human beings are, at present, the most successful of the animal species is that we are able to combine the flexibility and experimental brilliance of individuals with the generative power of co-operative effort. Children learn best when they have access to the generative power of those around them. As one child said: ‘I like working with others, they help you see what you are thinking.’

The basis of success-through-others is language and communication. It is through effective communication – ‘co-operative talking’ – that great institutions, social organisations and small task groups achieve success. We need to look therefore at two closely linked areas:

- co-operative talking *organising experience into thought with others*
- co-operative learning *learning with others, in pairs, in small and in large groups.*

The best conditions for learning exist when children have a challenge that extends their cognitive range. We help most when we encourage the child’s reach to exceed its grasp. Too great a challenge risks ending in failure and frustration. Too little challenge and a child’s potential will never be realised. For Vygotsky this potential – what he calls the Zone of Proximal Development – exists not just in the child’s mind. It lies as much in the ‘social plane’, in the skills, ideas and experiences of the social context in which she or he and her or his peers inhabit, as in the ‘psychological plane’ or internal functions of the mind. On this view the role of the teacher is to provide the social and cognitive framework for learning, so that attention is drawn to the cognitive challenge of the task, and support is made available to meet that challenge.

The communicative framework for learning

Success in learning depends on creating a communicative framework for learning. Elements of a shared understanding can be summed up in two questions.

- Where are you? *What is the present situation, task or problem? What do you know and what do you need to know? Who and what is involved? Why is it as it is?*
- Where do you wish to be? *Where do you wish to get to? What do you want to*

do? What obstacles are in the way? How will you get there? Who or what will help? Which are the ways to go? How will you know when you are there?

Children need cognitive climbing frames to 'scaffold' their thinking that support where they are, and help them to higher levels of explanation and activity. The communicative framework should help children to:

- communicate what is known, and then
- develop new understandings through thinking aloud, grappling with ideas and clarifying thoughts, and then
- reflect on what has been achieved through thinking about what they have learnt and exchanging ideas with other students and adults.

Good teaching will help children focus not only on the content of what they are doing, but also on the processes and outcomes of their activity. Teaching is less successful, as schools inspectors' (HMI) reports show indicate, when teachers are unclear about what they want children to learn, when tasks are not matched to children's ability, and when learning outcomes are not assessed. Simply giving children tasks, even if the content is relevant, is not enough. To help children in learning how to learn, we must try to communicate these key elements.

- Think what you intend to do and discuss what you hope to achieve.
- Think why you are doing it and express in your own words the purpose of the activity.
- Think how you are doing it and what can help you to achieve success.
- Think what you have done and reflect on the outcome (the product and the process).
- Think what you do next and how to use what you have learnt.

The Plowden Report³ spoke of the 'twin pitfalls of demanding too much and expecting too little', but often we need to demand a little too much if we are to help children to have high expectations of themselves and to focus on the next stage in their learning, while at the same time valuing what they have achieved. It is one of the 'pushme/pullyou' dilemmas of teaching to maintain the right balance of high but realistic expectation. One justification of co-operative work is that we are able to expect more from children who are working together than when working on their own. But what form should this co-operation take?

Learning in pairs

Make your friends your teachers and mingle the pleasures of conversation with the advantages of instruction.

Gracian (1647)

Like many good ideas in education, children helping children is not new. The benefits of peer tutoring were known to the Greeks and Romans. As Comenius observed: *Qui docet, discit*, (Who teaches, learns). There is no better way to learn something well than to teach it, and to teach something is often to learn it twice.

How to be a good teacher

Teach them in stages and make sure they understand all they need to know in order to learn what you are teaching.

Teach them in the simplest form and make sure they understand ~~each~~ all that you are telling them.

Ask them if they don't understand anything and if they don't go over the part they don't understand.

Ask a few questions and check that way that they understand all you are telling them.

If they are sure of it, give them a sheet of that work and see how they cope on their own.

Figure 7.1 How to be a good teacher by Tom, aged ten

Peer tutoring is a process that can benefit:

- the tutor *the helping child*
- the tutee *the child who is helped*
- the teacher *the mediator of the learning.*

Goodlad⁴ says that peer tutoring is 'humanly rewarding'. What are these rewards? Social benefits arise from creating a co-operative learning environment, in promoting a sense of common purpose and in social bonding. Gains in learning can include progress in subject areas, as well as in learning how to learn (metacognitive development).

The helping child (tutor) can benefit from taking on a nurturing role. Although they are teaching material they may have mastered, the tutor can gain intellectual benefits in different ways. Putting their skills and knowledge to some purpose will help to consolidate their knowledge, fill in gaps, find new meanings and extend their conceptual frameworks. It also helps the child to understand more about the learning process, the possible blocks to learning and how to overcome them. As one child tutor put it: 'Teaching someone is not easy. You have to remember a lot of what you've forgotten. It helps you understand what you went through at that age. Having a teacher is alright but having a friend too is better'.

For the child helped by another, the benefits can be considerable. The tutee is given some extra individual attention, with regular and responsive feedback on his or her efforts. The verbal interaction with a friend is of a personal and powerful kind, if it works well. The quality of teaching by a peer tutor will rarely match that of a trained teacher. Why is this so? Good teaching involves giving help when the learner faces difficulty, but offering less help when the learner shows signs of competence. Child tutors are ready to offer help, but tend not to pull back when the learner shows signs of success. Child tutors give specific concrete suggestions, and are less likely than adults to ensure the learner understands the connections between activities. Children are not so good as adults at 'scaffolding' the learning process for others.⁵ They do not have the metacognitive skills of adults, they know less about the process of learning. What they do offer is a direct help in learning, and help of a companionable kind. The tutor child can provide a model of learning, and demonstrate the required behaviour – such as reading or problem-solving in maths. The tutor can model how to learn as well as offer emotional support. As one child in a tutoring scheme remarked: 'It's like having an extra friend in the classroom'.

What do teachers get out of it? Peer tutoring can free teachers from some of the routine work inherent in monitoring a whole class. To foster an 'apprenticeship' approach to learning teachers will need to support both tutor and tutee, to ensure that a positive social relationship is being developed. As one teacher, after having set up a peer tutoring scheme reported: 'When it works we all benefit'.

Paired reading

I like reading with someone because it helps me to read by myself later.

Jane, aged eight

There has been much research⁶ into the benefits of paired reading. Originally intended for use with non-professional adults to help children with a reading disability, it has been found to have beneficial effects used with non-readers, retarded readers, average and able readers. The recommended approach can be summed up as follows:

- 1 The tutee selects a book of interest.
- 2 The tutoring child, or teacher, checks that the book is within the tutee's competence, e.g. by using the 'five finger test'. (This is a simple readability check. Open the book at random, spread five fingers across it, if the tutee can read the five words the book is probably appropriate. If there is difficulty in reading more than one then the book is probably too hard. If there is a problem with one word, then try again on another page.)
- 3 Tutor and tutee sit physically close.
- 4 Tutor and tutee talk about the book before the tutee reads aloud, or they read the text together.
- 5 If the reader is stuck on a word, the tutoring child allows a *pause* (so the tutee can think and try guessing from the context or the initial sound of the word). The tutor then *prompts* (by giving a clue, such as the initial sound of the word).
- 6 Praise is a key feature of the method – praise for the child who is helped, and for the helper.

The process is simple. As Goodlad put it, all you need to decide is 'who is to teach what to whom and for what purpose, how and where, when and how often'.⁷ Success in this kind of learning is made up of many small steps. The recipe is – keep it short, simple and sustained. The tutoring child (or adult) needs training, for example, in the 'pause, prompt, praise' method, and the process needs to be monitored so that there is a good 'match' and positive feelings between the partners.

Paired writing

For any writer, having a 'response friend' to share the first draft of a piece of writing can be useful in providing an audience for the work, as well as in proofreading for errors and improvements in style. But children need guidance, both on how to be a good writer and how to be a good response friend. Children find it helpful to have this information made explicit. As one nine-year old said: 'You can't make it better until you know how'. This know-how needs to be put into words, for it is not self-evident. The advice one teacher has posted in her classroom on being a good writer and on being a good response friend is set out in Figure 7.2.

In learning how to learn, children need opportunities to teach, and opportunities to learn from each other. They can benefit from learning to learn in three kinds of partnership:

- equal partners in terms of age and ability as response partners to share thinking work and problem-solving
- tutor partners, who are more able, such as older students or adults who can act as 'expert' helpers

Being a good writer	Being a good 'response friend'
1 Draft your writing	1 Read your friend's work, or listen carefully as your friend reads it
2 Read it aloud to yourself	2 Tell you friend at least two good things you liked about the writing
3 Think Do you want to add or change anything?	3 Think how they might improve their writing. Is there anything missing?
4 Read or show your writing to someone. Is there a good beginning and ending?	4 Can you help your friend make it better?
5 Listen to what they say. Is there a way of making it better?	
6 Can you make it even better?	

Figure 7.2 Being a good writer and a good response friend

- tutee partners who are less able and can be tutored in specific learning tasks, giving the child experience of being in the 'expert' tutoring mode.

Think-pair-share

One co-operative learning strategy found useful in all kinds of learning situations is summed up in the slogan: 'Think-pair-share'. Often teachers use a 'one response' strategy, meaning that one child responds in the class at a time. Think-pair-share is a multi-response strategy, applicable to all ages and abilities.

The stages of think-pair-share are listed below.

- 1 Students listen while teacher or another poses the question or problem.
- 2 Students are given time to think of a response.
- 3 Students then pair with a neighbour to discuss their response.
- 4 Finally students share their responses with the whole group.

The following are some activities that can encourage paired learning:

- paired drawing *one partner draws a picture and describes the hidden picture to the other who tries to draw it from the description*
- mirror movement *one child creates a sequence of body movements for the*

- partner to try to follow at the same time*
- *shared reading partners prepare a text, e.g. news item, story or poem, for reading aloud between themselves or to others*
- *cartoons partners brainstorm ideas, one child draws, the other supplies captions*
- *instructions partners work out instructions, rules and strategies for doing something, e.g. playing a game or making a model, then showing others*
- *paired stories partners create a story together to retell to others*
- *paired assessment partners report on each other's work, picking out at least two good things about it and one thing to improve.*

TASK 33

Peer tutoring

Think of a child who needs help in some aspect of learning.

- 1 Who could be a learning partner for that child?
 - 2 What advice will the learning partners need?
 - 3 Where should they meet? When, and how often?
 - 4 In what ways can you support the partnership?
- Working with partners should also give a child confidence to work in bigger groups.

Learning in a group

I like working in a group when you know what you have to do ... when you each have a job. Otherwise you might just as well be on your own.

James, aged eight

If all teaching were done on an individual basis, a teacher could only spend a little amount of time with each individual. More time can be spent with children when they are grouped together, and they can learn more from working with each other.

The advantages of working in a group can include the development of:

- *social skills (interpersonal intelligence) involved in working with and communicating to each other*
- *cognitive skills through having to explain, negotiate meanings and solve problems with each other*
- *emotional support through being motivated by the enthusiasm of the group or its leading members.*

These benefits do not arise simply by sitting children together. Research studies in British classrooms show that, where children were seated in groups, most of their time was spent on individual tasks.⁸ Typically children work in groups, but not as groups. Sitting in groups can positively distract children from their work. Task-related talk is not always task enhancing. Typical exchanges included: 'Where are you up to, I'm on ...' 'Can I borrow your rubber?' 'Do you have to underline?' Nor do children in groups necessarily get much teacher attention related to their learning. A lot of teacher time can be taken up in managing the group and organising

resources. Children may also be left unsure about how much co-operation is allowed. When the teacher is present, group activity is high, but it usually drops to around 50 per cent when the teacher is not actively engaged with the group. So what should be done?

One implication of these findings is that teachers should think carefully about the purpose of grouping children. Often there are no good grounds for sitting children in groups – they would work better on individual or paired tasks, sitting individually or in pairs. It may be relevant to have different groupings for different tasks. Children will need to sit in groups for genuinely co-operative groupwork. But what is genuinely co-operative groupwork, and how is it achieved?

Grouping children together is only justified if it helps to promote more effective learning, and results in co-operative activity that extends what the individual could do alone.

Three kinds of learning in groups

- 1 Children working together on individual tasks.
- 2 Children working in a group on a task with a joint outcome, such as a problem-solving or construction task.
- 3 Children working together on activities which contribute to a joint outcome, e.g. chapters of a story, or research task.

The composition of groups

How should groups be composed? Do children learn better in groups of similar ability, or mixed ability? Research by Bennett and others indicates that groups of high ability children working together usually produced the highest degrees of understanding and performance in group work.⁹ Next in level of performance came mixed ability and average ability groups with low ability groups working least well. High ability children tend to work well in whatever ability group they are put in. They work well together, and in mixed or low ability groups they often take the lead in explaining the task and organising the thinking of the group. The fear that high ability children miss out in mixed ability groups seems largely to be unfounded, if they are also given opportunities to work at optimal level with similar high ability children. They can gain by taking the 'teacher's' role in helping the group.

Tasks for groupwork

The important factor about groupwork is that it is not just a social experience, but should impose cognitive demands on the children involved. So what kinds of task are best suited for co-operative groupwork?

Activities suited to group working include:

- *interpretative discussion where groups investigate and discuss a given focus such as a picture, poem or artefact – pooling ideas, sharing experiences, or eliciting opinions to interpret or describe what they have been given. Examples include: group reading, putting things in sequence, e.g. cut-up lines of a poem, putting things in order of preference, e.g. pictures, putting things into sets, e.g.*

what will float or sink?

- **problem-solving tasks** where groups discuss an open-ended problem or situation, and decide between possible courses of action. Examples include: organising a fund-raising event, solving an environmental or social problem, tackling a computer task, or preparing a group presentation
- **production tasks** where groups work in teams to produce a material outcome, either by creating different prototypes and agreeing the best, as in designing a paper plane; or contributing different elements to a joint product, as in creating a newspaper; or working on one large product, as in making a paper tower.

TASK 34

Group activities

Choose a topic or planned course of work in a curriculum area.

Design one or more co-operative group activities for groups of your children that relates to the chosen topic or subject.

Try to create group activities for each of the headings listed below.

- 1 Interpretative discussion
- 2 Problem-solving
- 3 Production for display

A useful distinction can be made between the two aspects of thinking that can contribute to a process of discussion – reflective thinking and active thinking (know-how). These two aspects of thinking relate also to two

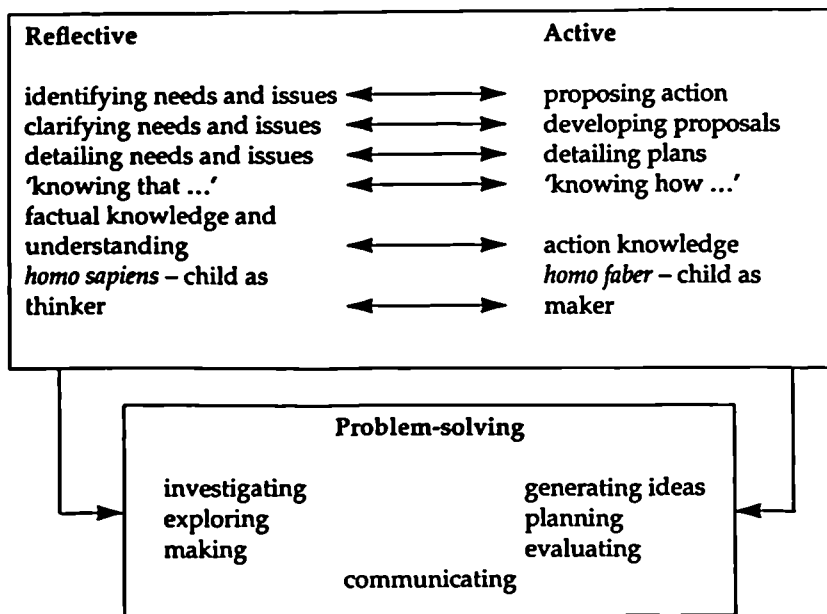


Figure 7.3 Reflective and active thinking¹⁰

aspects of groupwork, getting group members to reflect on how the group functioned as well as on the active outcome of the group effort. Questions to ask them to discuss include:

- How well did we work as a group?
- How successful was the outcome?

Planning for groupwork

Successful groupwork depends on good planning.

In planning for groupwork good advice is to start small, start simple and start structured. One way is to give pairs of children a simple task, like predicting the end of a story. Then put two pairs together to share ideas. This is useful for each pair has a contribution to make to the discussion. The group can then share with a larger group, such as a class. This strategy can be summed up as:

Think – Pair – Group – Share

Key elements in planning for groupwork include:

- group size *which size groups work best?*
- group composition *either free choice, friendship, mixed or similar ability groups?*
- group management *what skills and strategies make for success?*

Group size

The National Curriculum asks teachers to set up different groups for different tasks and purposes. Which is the best size for groupwork? Research suggests two answers to this:

- no fixed rules, with groups of three, four or five used for different tasks and purposes
- the rule of four, which argues that groups of four allow for maximum communication between individuals, and that in groups of three or larger than four there are often outsiders.

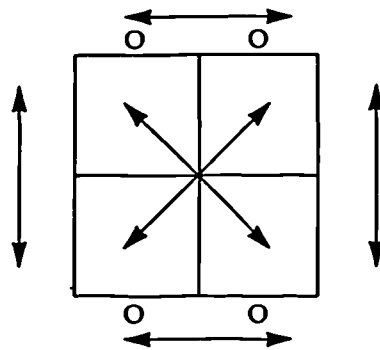


Figure 7.4 The rule of four¹¹

Group composition

Two elements necessary for successful groupwork are security and challenge. Friendship groups offer students the greatest security, but not always the challenge needed to extend their thinking. Friendship groups also do not extend the social skills involved in relating to children they do not know or do not like. Success in life involves working at times with all sorts of people, and children should sometimes be persuaded to work in groups despite personal likes and dislikes. Mixed ability groups are likely to benefit the widest range of pupils, though opportunities should be given for those of similar ability, especially high attainers to work together.

Do children work better in gender or mixed-gender groups? Research findings provide no clear conclusions. Key factors seem to be the personality of individual children and the balance of skills in the group. Groups work best, irrespective of gender make-up, if they make good teams and have a blend of co-operative skills.

Groupwork skills – teambuilding

Children need to be taught *how* to work in co-operative groups and to be made aware of the kinds of skills and behaviour that make learning in groups effective.¹² *Team building* is necessary to help overcome the various problems associated with working together. Skills needed include:

- the ability to understand the needs of others and to take turns
- the ability to articulate a point of view
- the ability to listen to the viewpoint of others
- the ability to respond, question, discuss, argue and reason.

These skills are not in themselves innate, they have to be learnt. They can be divided into two kinds – the cognitive skills involved in processing information, and the social skills of working as a good team member.

Various barriers may need to be overcome. Barrier behaviours include being opinionated, aggressive, over-dominating, competitive, attention-seeking, messing around, rejection of others and withdrawal. Groups will sometimes allow their 'stars' to do the work and make the decisions, and allow 'free riders' to opt out of all contributions. 'Stars', 'free riders' and other stereotypes can be identified in any group situation, staffroom or club.

The following activities help to develop groupwork skills.

Who works or plays in group teams?

Children brainstorm different kinds of groups or teams, such as sports teams, factory teams, hospital teams, school teams etc. List and share these. Choose one, for example, a sports team. Discuss: What makes for good teamwork in this team?

Who works in a group?

Brainstorm with the students the reasons for working in a group. When a teacher of six-year olds did this task the responses she received included:

- to practice getting on with one another
- to learn things other people know
- to get help with spelling
- to co-operate and help
- to listen to one another
- to think
- to solve problems
- to sort out what you will do.

What rules should there be?

Ask the children in groups to think of about six to ten rules for working together. When these have been agreed children can make a group poster to show and share with others.

Rules for discussion agreed by a group of ten-year olds

- 1 Give everyone a turn at speaking.
- 2 Don't interrupt when someone else is talking.
- 3 Give support and help them add things.
- 4 Don't say anything stupid, mean or unpleasant.
- 5 If people don't want to say anything they don't have to.
- 6 Don't laugh unkindly at something someone has said.
- 7 Think before you ask a question.

Can you make a group display?

Ask students to plan a display of work to which everyone in the group contributes, for example, an art mural. Try giving each member one element of the final design, for example, one colour or one shape, a writing or research project, a music or movement presentation, a design or construction, or a puppet play.

Could you survive as a group on a desert island?

Groups imagine they have been shipwrecked on a desert island. What would they need to survive? What could each member of the group offer to do to help the others survive? What tasks would need doing? How would they share these tasks?

If they found a box washed ashore, what items would they most like to find in it to help them survive? Agree on ten items, and try to list them in order of importance. Compare lists.

Can your group give advice to help solve a problem?

Groups consider a problem that has been presented to them. They must discuss and try to agree a joint response to the problem. Examples of problems include common moral dilemmas such as: 'Two students find a five pound note in the street. What should they do with it?' or problems contributed (anonymously) by pupils themselves.

Can you read in a group?

Groups share reading aloud of a story or book, and discuss what they have

read. Most students will need some guidance when asked to discuss a story, and it may be helpful to brainstorm a list of questions to help the group focus on the story, the illustrations and the way the story has been written.

TASK 35

Creating group rules

Ask groups of children to discuss, agree and write down all the rules they think will help the group to work well together.

- 1 Which rules do they think most important?
- 2 Try to put the rules in order of priority.
- 3 Display and discuss the rules created by different groups.

In 1811, Isaac Watts wrote:

If three or four persons agree to read the same book, and each brings his own remarks upon it at some set hour appointed for the conversation, and they communicate mutually their sentiments on the subject, and debate about it in a friendly manner, this practice will render the reading of any author more abundantly beneficial to every one of them.

As anyone who has had experience of organising groupwork will know, problems are almost bound to occur. Humans are social, but not necessarily sociable, animals. Some students may be 'group refusers'. Strategies to deal with these include starting in pairs; working for short periods of time; rewarding good participation; varying the groups; allowing the child to observe a group in action; or trying firm persuasion, 'forcing the child', in Rousseau's phrase, 'to be free'. Over-quiet and over-dominating children may pose problems. Sometimes it helps to put the retiring child in a quiet group and a 'dominant' child with an extrovert group. Success in groupwork means matching children to each other and the task to the group.

Another possible problem is that group members may demand individual attention from the teacher. One way to avoid excessive demands is to have the rule: team questions only. If the child has a question, she or he must first ask a member of the team. Only the spokesperson for the team may consult with another team. If, after trying, the team cannot find an answer they may then ask the teacher the team question. The aim is to move the team from teacher-dependency to group independence. As one teacher put it: 'I'll only help them if at first they've tried to help themselves.'

Remember the old advice: 'Keep 'em busy'. Give the group a specific task to undertake, in either verbal or written form. If you have set them an open task, have an alternative or extension activity ready, such as a checklist of things to discuss or a sequencing activity. If members of the group are going to have different roles such as chairperson, scribe, reporter, expert, sort this out beforehand. Make clear to them your own role in supporting, evaluating and rewarding their group effort. The aim is of course for the group to feel, 'We did it ourselves!'

Evaluating groupwork

Evaluating the process and outcomes of groupwork is important. Students should monitor their co-operative behaviour and identify what they have learnt, and teachers or others assess should what happened during the groupwork task and its outcomes (see Figure 7.5 below).

The following questions can help children focus on different aspects of groupwork and help promote the skills of self-evaluation.

- What do you think this work was about?
- What do you feel about what happened in your group today?
- What was good about your groupwork?
- What could have made it better?
- What do you think you have learnt?

Group work: *observation record*

Name Curriculum area

Date Activity/Context.....

Observations

Figure 7.5 Observation record

The focus should be on what actually happened and on lessons learnt from the experience. For the teacher, the best ways of monitoring participation and progress is by a combination of:

- direct observation and note-taking (or listening to a tape-recording of group talk)
- discussion with individuals, with the group or with the class
- responses from group members, writing or drawing about the group task.

Assessment of group activity is made difficult by the complex interweaving of the social and cognitive aspects of learning. One child asked to assess what he had learned from his group activity replied: 'I haven't learnt much about building bridges but I now know how to stop Jason putting his hand up my bottom!' Many teachers are never without a notepad to record observations of students at work. It is advisable to focus on one group, or on the work of three or four children a week, trying to record key experiences and looking for the 'Aha!' moments of learning breakthrough. An example of an observation record sheet is shown in Figure 7.5.

Learning in large groups

There are many benefits to be gained from learning in large groups – the traditional approach of organising and teaching children in classes. A large group or class is a community, and should provide the benefits of community support, resources, and extended opportunities for learning. Research shows a link between successful learning in schools and high levels of effective whole class teaching. What are the factors that make for success with children learning in large groups?¹³

Two aspects of learning in a large group

The social/cultural context

The ethos of standards and expectations created and maintained by the community, school or class can become reflected in the individual learner. A community or a school can create a powerful learning environment exerting a strong influence on the learner. A large group context can provide the essential structure, purpose and control needed for learning to flourish.

The cognitive/intellectually challenging context

The intellectual stimulus to challenge and extend the child involves the use of 'higher order questioning, explanations and statements, and these in turn correlate with higher levels of pupil performance', particularly in the basic subjects. Such teaching should aim to involve all the pupils in active thinking and responding.¹⁴

Not that active thinking is always seen as a good thing. As one child recently said after his class had been brainstorming for some time: 'Can't I get on by myself. All this thinking makes my brain hurt!' But another child's response was: 'I like this thinking together, 'cos it helps you think more.'

read. Most students will need some guidance when asked to discuss a story, and it may be helpful to brainstorm a list of questions to help the group focus on the story, the illustrations and the way the story has been written.

TASK 35

Creating group rules

Ask groups of children to discuss, agree and write down all the rules they think will help the group to work well together.

- 1 Which rules do they think most important?
- 2 Try to put the rules in order of priority.
- 3 Display and discuss the rules created by different groups.

In 1811, Isaac Watts wrote:

If three or four persons agree to read the same book, and each brings his own remarks upon it at some set hour appointed for the conversation, and they communicate mutually their sentiments on the subject, and debate about it in a friendly manner, this practice will render the reading of any author more abundantly beneficial to every one of them.

As anyone who has had experience of organising groupwork will know, problems are almost bound to occur. Humans are social, but not necessarily sociable, animals. Some students may be 'group refusers'. Strategies to deal with these include starting in pairs; working for short periods of time; rewarding good participation; varying the groups; allowing the child to observe a group in action; or trying firm persuasion, 'forcing the child', in Rousseau's phrase, 'to be free'. Over-quiet and over-dominating children may pose problems. Sometimes it helps to put the retiring child in a quiet group and a 'dominant' child with an extrovert group. Success in groupwork means matching children to each other and the task to the group.

Another possible problem is that group members may demand individual attention from the teacher. One way to avoid excessive demands is to have the rule: team questions only. If the child has a question, she or he must first ask a member of the team. Only the spokesperson for the team may consult with another team. If, after trying, the team cannot find an answer they may then ask the teacher the team question. The aim is to move the team from teacher-dependency to group independence. As one teacher put it: 'I'll only help them if at first they've tried to help themselves.'

Remember the old advice: 'Keep 'em busy'. Give the group a specific task to undertake, in either verbal or written form. If you have set them an open task, have an alternative or extension activity ready, such as a checklist of things to discuss or a sequencing activity. If members of the group are going to have different roles such as chairperson, scribe, reporter, expert, sort this out beforehand. Make clear to them your own role in supporting, evaluating and rewarding their group effort. The aim is of course for the group to feel, 'We did it ourselves!'

Evaluating groupwork

Evaluating the process and outcomes of groupwork is important. Students should monitor their co-operative behaviour and identify what they have learnt, and teachers or others assess should what happened during the groupwork task and its outcomes (see Figure 7.5 below).

The following questions can help children focus on different aspects of groupwork and help promote the skills of self-evaluation.

- What do you think this work was about?
- What do you feel about what happened in your group today?
- What was good about your groupwork?
- What could have made it better?
- What do you think you have learnt?

Group work: *observation record*

Name Curriculum area

Date Activity/Context.....

Observations

Figure 7.5 Observation record

The focus should be on what actually happened and on lessons learnt from the experience. For the teacher, the best ways of monitoring participation and progress is by a combination of:

- direct observation and note-taking (or listening to a tape-recording of group talk)
- discussion with individuals, with the group or with the class
- responses from group members, writing or drawing about the group task.

Assessment of group activity is made difficult by the complex interweaving of the social and cognitive aspects of learning. One child asked to assess what he had learned from his group activity replied: 'I haven't learnt much about building bridges but I now know how to stop Jason putting his hand up my bottom!' Many teachers are never without a notepad to record observations of students at work. It is advisable to focus on one group, or on the work of three or four children a week, trying to record key experiences and looking for the 'Aha!' moments of learning breakthrough. An example of an observation record sheet is shown in Figure 7.5.

Learning in large groups

There are many benefits to be gained from learning in large groups – the traditional approach of organising and teaching children in classes. A large group or class is a community, and should provide the benefits of community support, resources, and extended opportunities for learning. Research shows a link between successful learning in schools and high levels of effective whole class teaching. What are the factors that make for success with children learning in large groups?¹³

Two aspects of learning in a large group

The social/cultural context

The ethos of standards and expectations created and maintained by the community, school or class can become reflected in the individual learner. A community or a school can create a powerful learning environment exerting a strong influence on the learner. A large group context can provide the essential structure, purpose and control needed for learning to flourish.

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Summary

Each child is an individual and has individual learning needs. However, most human learning is a social process, with others involved in co-operative activity with the learner. Successful learning in groups requires a communicative framework. This can be achieved through co-operative work in pairs, for example, in reading or writing activities. Co-operative learning can be undertaken through discussion, problem-solving or production tasks. Considerations for effective groupwork include the activities to be undertaken and also the composition of groups and the development of groupworking skills. Children also benefit from learning in large groups. Research into co-operative learning supports the view that effective groupwork develops both the social and cognitive aspects of learning.¹⁵

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8 Coaching

How cognitive coaching can assist the individual learner

In his teaching the wise man guides his students but does not pull them along; he urges them to go forward and does not suppress them; he opens the way but does not take them to the place ... if his students are encouraged to think for themselves we may call the man a good teacher.

Confucius (c. 5th century BC)

The best sort of teacher is one who helps you do what you couldn't do by yourself, but doesn't do it for you.

Child, aged eight

Ask a group of people where they study best and you usually get a variety of responses – at a desk, lying on the floor, by oneself, with others, in silence, talking with others, in short bursts, for a length of time and so on. Thinking and learning is an idiosyncratic process. We all have our own unique learning style, and what works for us in one situation may not suit us in another. As Whitehead reminds us: 'Each human being is a more complex structure than any social system to which he belongs.' It is this complexity, this many-layered functioning and variability of response that makes the task of teaching and of matching levels of support to the needs of individual students so challenging. All children need support as learners, but they do not always know what support they need or where to get it. This chapter looks at some general principles of cognitive coaching, and at teaching strategies that can help children learn in a wide range of contexts.

There are occasions when students learn well both in large groups and in small groups. At some time, however, all benefit from being taught in a one-to-one situation where the teacher:

- gives individual help in learning
- shows students how to take responsibility for their own learning.

All learners need some individual interaction with a teacher, some short period of time set aside, when the teacher's attention is focused specifically on the particular needs of that individual. Research shows that this is a rare occurrence in busy classrooms, and some children – often the quiet ones who get on with their work – get by with very little individual attention. They are the 'invisible children' that exist in almost every class. If you know of a class of children, can you think who the 'invisible children' might be?

Individual children will need different kinds of help, for example, being shown a technique, given a word of advice or encouragement, or told

information that will help them in their work. Cognitive coaching is giving learners a special kind of help. It is help that is generative, aimed at giving them more than knowledge in a routine fact-giving sense and in developing those open capacities that help them transfer their learning to other situations. Cognitive coaching can be summed up as teaching for transfer, seeking to teach the individual student transferable skills of learning.

Cognitive apprenticeship

Only during the 19th century did the idea arise that it might be appropriate to send all children to school for a period of time and not until the 20th century did we come to believe that all children should stay in school through adolescence, and that school came to have the prime role of preparing children for life. In previous generations, children were largely taught in family settings and through apprenticeships. Despite limitations, the apprenticeship system had some important advantages over school. It taught skills in the context of actual work. Skills did not remain abstract abilities, but were applied as knowledge in use.

One of the problems with school-learning is that it teaches skills that do not seem directly related to human purposes or the student's needs. A learner benefits not only from declarative knowledge (knowing the facts of the matter), and procedural knowledge (skills and know-how) but also *conditional knowledge*, that is knowledge about where, when and how to apply particular skills and procedures. Conditional knowledge is the kind embedded in a human context, and in the particularity of human life. For example, many studies have shown that although the 'four rules' of arithmetic (adding, subtraction, multiplication and division) are known, many students cannot see how to use them in solving simple everyday problems. Many leave school in a state of conceptual confusion about some of the basic concepts not only in mathematics, but also in science, history and other key areas of learning, for they have not learnt how to apply their knowledge. It is not surprising that schools, burdened by the demands of a heavy and abstract curriculum, can become disappointing environments for learning.

The following excerpt from a conversation with a young child reveals the roots of a lack of cognitive understanding about mathematics:

- RF Why are you working with numbers?
Child [working on a mathematics workbook] To colour them in.
RF But why are you adding those numbers up?
Child Because we have to do them.
RF Is it a good thing to learn how to add up?
Child Yes.
RF Why?
Child Because the teacher tells you to.
RF Who else uses numbers?
Child I don't know.
RF Have you seen anyone else using numbers?

Child Mary.

RF What does Mary do with numbers?

Child [Pointing to a child on another table] She colours them in.

The cognitive apprenticeship approach means placing a much greater value on intellectual processes than the sort of production line 'busy work', such as colouring in numbers in workbooks, that is a characteristic of some classes. It introduces into school many of the features that made traditional apprenticeships effective, by encouraging students to be engaged in the kind of disciplined and productive mental work that, in the past, was applied to craft activities. Three key elements in the effective teaching of apprenticeship are challenge, context and coaching. Cognitive apprenticeship works best when students are engaged on:

- challenging tasks, that require mental effort, such as reading a text that takes some effort to understand, writing to persuade an audience, or investigating a mathematical or scientific problem which encourages students to think for themselves
- contextualised tasks, that have a purpose, such as writing for an interested audience, reading for information, or applying mathematical or scientific knowledge to real-world problems
- coached tasks, that aim to assist learning, such as observing others do what they will be expected to learn, seeing models of effective performance, and being shown standards by which to judge their own performance.

Cognitive coaching need not be time-consuming. Work with one child might take two to three minutes but, if it is based on the principles of cognitive coaching, it will have contributed to learning, and the child's ability to learn. The ideal is to make cognitive coaching a flexible part of the daily routine. A concern for all teachers is: 'How can I find time to work with one child in a room with more than 20 children needing my attention?' One answer is that cognitive coaching need not be a separate activity but part of the regular teaching pattern of the day. Another approach is to set aside a planned time of coaching for every individual child over a period of time, for example, once a week or fortnight. As one teacher put it: 'It means turning some of my routine teaching into "quality-time" teaching'.

Some of the models for cognitive coaching have been inspired by the ideas of Vygotsky who argued that children develop particular cognitive capacities through collaboration with expert practitioners. At first the child is a spectator of the activity of someone who is more expert (for example, teacher, parent or older sibling). The child, as a novice, takes over some of the work under supervision of the expert, and is gradually given more responsibility in the activity until eventually the child takes full responsibility for performing the task, with the expert as a supportive audience. Using this approach, children learn about the task at an assisted pace, joining in when they can. The gap between the level that the child can manage independently and the level that the child can reach with expert help, Vygotsky called 'the zone of proximal (or potential) development'. Vygotsky claimed

that 'what children can do with the assistance of others might be, in some sense, even more indicative of their mental development than what they can do alone'.¹

Research into the differences between good and poor learners reveals the following facts.

Good learners tend to:

- focus and concentrate on tasks in hand
- generate questions about their learning
- monitor and resolve problems as they occur
- translate what they are learning into verbal and visual images
- persevere when they fail at part of a task.

Poor learners tend to:

- lack the ability to focus on the task in hand
- lack a clear idea of the purpose of learning
- lack awareness of the skills needed to be successful at learning
- view learning as a passive activity which you either can or cannot do
- give up easily on learning tasks.

The aim for teachers is to devise ways in which poor learners can practise the strategies of good learners. One way is to ask children to think about what they do when engaged on a learning activity, such as reading. For example, they might reply: 'I miss out a word I don't know,' 'I get a picture in my mind', 'If I don't understand it I read it again more slowly'. The teacher could then display these strategies in the classroom, so that poorer readers/learners can be made aware of the strategies used by better readers. 'Simplify...simplify', advised Thoreau, and it is by concentrating and making children aware of simple strategies that we can avoid complications and cognitive confusion.

TASK 36

Reflecting on thinking and learning

Do your children think they are good thinkers and learners?

What do they think makes good thinkers and learners?

One way to find out what they think is to ask them questions such as the following.

- 1 Can you draw (or give examples of) someone who is a good thinker/learner? can you draw (or give examples of) someone who is not a good thinker/learner?
- 2 Do you think you are a good thinker/learner? Why do you think so?
- 3 What can help people to be good thinkers/learners? What stops some people being good thinkers/learners?

There has been much research into effective ways of cognitive coaching² and into the problems of poor learners. The following six strategies have been found to be effective in coaching for thinking and learning:

- focus and follow throughs
- reciprocal teaching
- summarising
- explaining
- modelling
- positive feedback.

Focusing and follow throughs

One of the recurrent complaints of teachers is: 'Why don't they concentrate?' The complaints of confused learners include: 'Where do you begin?' and 'What do I do now?' Strategies of coaching that aim to address these problems include focusing and follow throughs. In focusing we try to direct the student's attention to the important features of the problem or learning situation. We are not simply telling them what to look at or think about, but require them to tell us what the central focus of attention should be. Focusing and follow throughs aim to help children to take more time, to attend more closely and to hold the focus of attention sufficiently long enough to allow thinking processes to work. They are scaffolding questions in which the hidden (or spoken) message is to 'Look at it again' and 'Think about it more'.

Focusing is part of cognitive coaching when it makes a cognitive demand on the child. It makes a positive cognitive intervention by creating a double focus:

- a perceptual focus on the elements of the situation
- a conceptual demand for an articulated response.

Focusing, which encourages the selective attention of the child, needs to be followed up by challenges that will sustain attention. With young children and poor learners, attention tends to be episodic and is easily diverted from the task in hand. The aim is to sustain attention by *making appropriate cognitive demands* on the child. The skill in coaching is to match the cognitive demand to the ability of the child. Where there is no challenge, no mental effort, then no new learning will take place, and it will simply be a rehearsal of what is known. An able child summed this up by saying about his teacher: 'She's boring. She doesn't do anything that you don't already know'. But, if the challenge is too great and beyond the child's repertoire of skills, this will lead to frustration and a lost learning opportunity. Challenge needs therefore to be structured and sequential, moving from the simple to the complex, from the concrete to the abstract, from lower to higher levels of thinking. The demands for initial focusing should be extended by follow-through questions that sustain attention and make progressively greater demands on the child within the limits of their competence.

The following illustrate some examples of questions that can be used to make increasing demands on levels of attention and thinking:

- labelling *What is it? What is it called? What are you doing?*
- application (simple functions) *What do you do with it? What is it for?*
- memory *Have you said/done this before?*

his wife how charmed he had been by her loving note. 'Loving nothing,' she said: 'It stood for "Keep it simple stupid".' Keep the language simple, and the children are more likely to understand the message.

Variety in presentation

Maintain interest by use of varied voice, gesture and focus of attention. Avoid monotony or too much variety of approach. In explaining to a group, try to cater for different learning styles – the audiles who like to listen, to question and to be given narrative examples (such as an illustrative anecdote); the visiles who like visual stimulus and the kinaesthetic who like practical activities.

Fluency

Pacing is important. Clarity is maintained by flow, and fluency by maintaining momentum. One way to keep the momentum going is to communicate enthusiasm and a genuine interest in the topic. As one child put it: 'I like my teacher she never stops'.

These features can be summed up as instructional clarity.⁹Teacher clarity is consistently associated with student achievement, and is one of the behaviours most often identified by students listing the characteristics of their most effective teachers. Some examples are listed below.

- She takes time to explain things, so you always understand what you have to do.
- She always asks if there are any questions, and goes over things.
- He puts it into words you can understand.

According to George Washington: 'Actions, not words, are the true criteria.' Sometimes students find it hard to act on the most patient and careful of explanations. They come to understand better by being shown by someone more able than themselves than by being told. *Actions sometimes speak louder and tell us more than words.*

Modelling

Teacher Why do you think Robert Frost repeated the last line of this verse?

Student [No response]

Teacher [After a long pause] Well, what feelings did you have as you read the poem?

Student Why don't you just tell us the answer?¹⁰

Students often resist the invitation to think for themselves. It is easier for them to be told than to think. How do we convey that the goal of learning is think for oneself? A powerful strategy for assisting learning is becoming an example or model of the process you are teaching.

Imitation is probably the chief means of learning new behaviour. Indeed it is so strong that one of the problems of maturity is developing the ability to resist imitating others. Children are socialised largely through imitating the unconscious acts of others. Traditional cultures were largely handed

down through modelling rather than verbal explanation. In modern times, research into modelling shows that children acquire much of their behaviour, habits, values and many of their thinking frames, not from direct instruction but through imitating adult and peer models.¹¹ Modelling to be effective, requires more than simple mimicry. Modelling, needs to be structured for understanding so that it can be transformed into images and verbal guides to subsequent performance. No amount of looking at a chess master or great painter will necessarily help in your own performance of these tasks. However, if we are able to actively code the components of behaviour through watching others, then we can be helped to learn and retain complex skills.

Modelling involves performing an action or series of actions that can be processed in the learner's mind. It is an important means of assisting performance, for it is often difficult to convey in words all the information that can be included in a visual or live demonstration. In particular, learners whose conceptual and verbal skills are underdeveloped often benefit more from physical demonstration than from verbal explanation as a means of showing learning in action.

Extended contact with a child gives a teacher opportunities to become a significant and influential model in that child's life. If emulation of others is a basic way of learning, then exhibiting desired kinds of behaviour can be a strong influence on students. This example can be shown in two aspects of modelling. The first is in the general 'teaching for thinking' behaviours that infuse all areas of the curriculum. Some examples of such behaviours are listed below.

- If listening to one another is valued, the teacher listens actively and with full attention to students.
- If taking time to think is valued, the teacher must take time to wait and think about problems or the answers of students.
- If allowing other points of view is important, the teacher must invite, consider and value different points of view.
- If 'thinking things through' is important, the teacher should model 'thinking aloud' when working on tasks or problems.
- If curiosity and questioning are of value, the teacher must share their enthusiasm for discovery and their wonder at the world.

Modelling has also been found to be effective in supporting specific areas of the curriculum. The teacher of reading, who wishes to give value to the practice of reading, will model the reading process, not only by sharing in the child's experience of books but also by showing that she or he reads books for enjoyment and information. Many teachers have a regular quiet reading time in class, sometimes called USSR – Uninterrupted Sustained Silent Reading – or ERIC – Everyone Reading in Class – in which the children *and* the teacher read books of their own choice. As one teacher says: 'If reading is important I want to show my children the pleasure and value I get out of it. We all become part of the same reading club.' Novice readers are encouraged to join in the process at a level they can manage, and which includes some experience of reading performance at a higher level. By

behaving in many ways as if the desired levels of knowledge and skill were actual, novices are treated as if they are competent in the processes they engage in. In so doing, they move towards full participation in the community of readers.

Whatever the subject matter of teaching, whether mathematics, science, music, art or social studies, we can invite children into that particular club by showing how we, at an adult level, participate in those activities at our own level. Apprenticeship learning is made more powerful when we make explicit the rules of thought and relate them to the kinds of task we are engaged in. Having identified the thinking skill or process we can teach it directly by:

- introducing the skill *for example, how to find something in an index*
- explaining the skill *saying why the information is important*
- modelling the skill *showing how you do it*
- reviewing what was done *ask them to tell you what you did*
- reflecting on the use *where else the skill can be applied.*

Teachers of skills from physical education to art have long used demonstration as a primary mode of teaching. These demonstrations are given added value when linked to the 'thinking skills' that make for successful performance and appraisal.¹² The best kind of modelling is when teachers take on the role of intelligent novices. They model performance at a slightly higher, more coherent and informed level than is characteristic of their children. To do this, it is helpful to focus on a particular cognitive strategy and provide a model to assist the children in using that strategy. For example, a teacher wanting children to refer to evidence in an information book modelled the following 'think alouds' as she made a systematic search of the book:

I am trying to find out something about Henry VIII's wives. I am looking in the contents page and seeing if I can see anything – I can't see a chapter on Henry VIII's wives – but I'm not going to give up, I'm going to look up the index – it's at the back, it's alphabetical so I look down the list until I get to Henry – doesn't seem to mention his wives – so I'm going to search through the pages (turns pages) – Ah, here's a picture of someone who may be his wife – let's look at the caption – Anne Boleyn – can we find that name on the page?

TASK 38

Modelling

Practise role modelling in a chosen subject area

Use the opportunity to share with children something you are currently learning from your own adult experience.

Share any pleasures or problems that arise, expressing these at their level of understanding.

The following outlines one way of doing this.

- 1 Choose a book for information or pleasure that you enjoy reading.
- 2 Find time to read this during a time when your children are also reading their chosen books.

- 3 After the reading session tell the children about your book, how you came to choose it and what you have learnt or enjoyed about it.
- 4 Invite questions about your book.
- 5 Ask the children to show and tell about their books.

*When children live with criticism,
They learn to condemn.*

*When children live with hostility,
They learn to fight.*

*When children live with ridicule,
They learn to be shy.*

*When children live with shame,
They learn to feel guilty.*

*When children live with tolerance,
They learn to be patient.*

*When children live with encouragement,
They learn confidence.*

*When children live with security,
They learn to have faith.*

*When children live with fairness,
They learn justice.*

*When children live with praise,
They learn to appreciate.*

*When children live with approval,
They learn to like themselves.*

*When children live with acceptance and friendship,
They learn to find love in the world.*

Figure 8.1 Children live what they learn

Positive feedback

I like what you have done. Do you know why?

Teacher to child

We all welcome praise when we feel it is honestly given and is deserved. Research studies have shown that teachers tend to blame more than they praise, and notice faults more readily than they do virtues. Effort thrives on praise. Children need feedback on their past efforts and feedforward to help them identify what will make for future success and further praise.

Feeding back on performance is a powerful means of assisting learning. Thanks to research we are now in a good position to identify the features that make for effective feedback. Feedback can take many forms, such as teacher response, test data, self-assessment, but, to be effective, it must be guided by criteria of judgement, consistency of application and proximity of response to performance. The problem with feedback in the classroom is that it can often be inconsistent or too remote to be useful. Feedback is a term derived from cybernetics, the study of information systems. It does not refer to random information travelling along unconnected lines. For information to be feedback it implies the existence of a closed loop that includes criteria by which performance can be judged against standards. It is important therefore to be explicit about the criteria being used and the standards that are being aimed for. How are these standards to be set?

One way of providing standards is to offer models. The teacher can, for example, offer a model of good performance, or students can see and study good models achieved by other students. One teacher, for example, will often show her children, as a prelude to their activity, an example of a child's work – without saying whether it is a good or bad example. The work may be a piece of writing in a writing lesson, art-work in an art lesson or way of tackling a problem in a mathematics lesson. She will then ask children to judge (provide feedback) on the work, for example, by saying: 'Can you find two good things about this ... (piece of work)?' and 'Can you say one way in which it can be improved?'

The process of feedback can be summed up in these stages.

- Children should not feel that success is too easy, or too difficult, to achieve.
- They should know what standards to aim at, and the criteria by which they should judge their own work and the work of others.
- Praise of children's work should be specific and relate to both process and performance, for example: 'I like the way you tried different methods to find the answer, and well done for getting the right answer.'

When Confucius was told that Chi Wen Tzu used to think thrice before acting, he replied: 'Twice is enough.' To optimise challenge and avoid frustration there must be feedback and review of performance. Feedback allows the chance to correct errors, and also to motivate students by giving them a sense of success, and reassurance that they are building on competent work. Forms of feedback, include verbal praise, awards and rewards. The best forms of motivation are intrinsic, and stem from the child's own belief

in what they do. The most potent forms of feedback give learners a justified belief in themselves, in their capacity to learn and to review their own progress.

The good coach is like the wise ruler described in the ancient Chinese text *Tao Teh Ching*.

*The wisest rulers the people do not notice,
the next best they cherish and praise,
the next best they fear,
and the next best they revile.
For if trust is found lacking,
trust is not given.
The wise ruler treasures his words,
the people say: 'We did it ourselves!'*

Summary

Coaching refers to a range of strategies used to assist learning and to counter the conceptual confusions of learners. Coaching aims to create the conditions of cognitive apprenticeship, which include providing optimal challenge, purposeful contexts and assistance in performance of learning tasks. Ways of assisting performance include focus and follow-through questions, reciprocal teaching, summarising, explaining, modelling and positive feedback. Success in coaching does not depend on any one method, but a range of approaches that unite curriculum and cognitive aims, and meet the different needs and learning styles of students. The ultimate aim of the coach is to create independent learners who have the capacity to coach themselves and others.

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9 Reviewing

A review process can enhance self-esteem and learning

A person who doubts himself is like a man who would enlist in the ranks of his enemies and bears arms against himself. He makes his failure certain by himself being the first person to be convinced of it.

Alexandre Dumas, *The Three Musketeers*, 1844

If I think I can do something I can usually do it. When I don't think I can do it I usually fail.

Child, aged twelve

One day an English class was asked to do something surprising. They had been given a number of co-operative tasks to undertake in small groups. These included listing as many things present in the room as they could in one minute, identifying in their list what they thought would not appear on any other list; noting the possible uses of a paper clip; discussing famous people they would like to meet and ranking the top five; and sorting strip cartoon pictures into the right order. The lesson ended with a task that was in many ways the most challenging. The students were asked to write down what they thought they had learned from the lesson. Some of these reviews began in the following way.

- From this lesson I've learnt that you have to work in a group to achieve certain things ...
- I think this lesson was quite good, it made us think of things quickly ...
- I think this lesson was well worth having, because of the pleasure it brought me ...¹

What was new to the students was that they were not being treated simply as passive recipients of teaching, but were being regarded as active reviewers of their own learning. This process of review can help build self-esteem and self-awareness, and provides a useful focus for thinking about learning.

Self-esteem

One factor in the possible success or failure of any human endeavour is that precious source of energy known as 'self-esteem.' This is true of learning as in other areas of life. If children develop a sense of inadequacy in themselves as learners, they will live self-fulfilling prophecies like 'I cannot learn I am not capable I am no good at anything'. They will grow to lack a

positive sense of self-worth and self-competence. They will develop what has been called 'learned helplessness'.²

Children who do not have a self-image of themselves as active participants in learning will look elsewhere for sources of self-respect, such as any aimless social activity that gives a sense of self-worth. Studies have shown that self-esteem is not related to family, education, wealth, geographical location, social class, father's occupation or having a mother at home. It comes from relationships with those who play a significant role in the child's life. It is formed by the person's assessment of the 'self-pictures' which are daily reflected back from others.

Self-esteem is the quiet inner knowing that we are alright, that our worth is recognised by others as well as by ourselves. It is a sense of self-respect, a feeling of self-worth, a knowledge of who we are and what we can do. The main sources of this feeling come from:

- affirmation of positive qualities from parents, teachers and other significant caretakers
- recognition from peers, siblings and other children
- self-belief in themselves based on their own experiences of competence and success.

Children value themselves as learners to the degree that they have been valued. To focus on achievement in learning without also focusing on building self-esteem is only to half-educate a child. Research has consistently shown a correlation between self-esteem and achievement in reading, writing, mathematics and other subjects.³ It is an area no teacher or parent can afford to neglect. It is a necessary, but not a sufficient condition for success. Self-esteem by itself is not enough for it can encourage an uncritical self-satisfaction. What is needed is to link self-esteem to self-awareness, and to create in children what has been called 'mastery orientation'.⁴

Mastery orientation

Mastery orientation refers to a sense of self-competence or self-efficacy that children develop from an early age and that moulds their approach to learning. It is the attitude of: 'I am good at tasks and know how to do them'. Children who are mastery oriented are curious, they want to learn, and have developed the resilience to cope with failure and frustration. Mastery orientation makes for success in learning, particularly in the ability to respond to challenges, and to succeed in new learning tasks. Some of the characteristics of mastery orientation and learned helplessness are set out in Figure 9.1.

The style of 'helpless' or 'mastery' oriented behaviour is not related to intelligence, but is rather a personality characteristic, a way of viewing oneself and one's capacity to be effective with people and circumstances. All individuals, whether children or adults, fall somewhere along the continuum between helplessness and mastery. Some children have developed the characteristics of mastery orientation or of learned helplessness by the time they first enter school. Researchers in school entry (reception) classes,

Mastery orientation	Learned helplessness
Willingness to try hard tasks	Unwilling to face challenges
Views problems as challenges	Views problems as 'tests' of ability
Accepts failure without excuses	Quick to offer excuses for failure
Flexible in approach, tries other ways	Rigid in approach, gives up easily
Looks for approval in learning	Is self-motivated by learning
Wants to achieve learning goals	Wants to look good
Has a positive view of their competence	Negative view of themselves
Has a positive view of learning	Negative view of learning

Figure 9.1 Mastery orientation and learned helplessness

observing four and five-year olds, have noted that some children show more mastery orientation than others.⁵ They observed, for example:

- reactions to difficulty *some children avoid challenge and give up easily, whereas mastery-oriented children persist in the face of obstacles*
- independence *mastery-oriented children show themselves to be more independent and less reliant on teacher guidance*
- attitude to learning *mastery-oriented children are not afraid of new, challenging experiences, and choose learning activities such as reading books during times of free choice.*

By the age of nine, children can be seen to be developing either a mastery or helplessness orientation to learning. Some children have a much clearer idea about the aims of learning, and about their own capacities to learn than others. They are more aware of their own thinking processes and whether their skills match up to the demands of a task. These abilities are developed through giving children opportunities to review what they do, to assess what they have learnt and to draw out lessons or targets for the future. It is not sufficient that children have the self-confidence to tackle intellectually demanding tasks, they also need some objective diagnosis of strengths and weaknesses in order to pursue goals successfully.

Another element in mastery orientation is the belief that intelligence can be developed. Studies show that some children believe that effort will lead to increased intelligence. 'You can become clever if you try hard', said one six-year old. Other children believe you can either succeed in a task or you cannot, and they show little capacity for effort. As one child said when encouraged to pursue a problem-solving task: 'It's a waste of time'. Sometimes this negative view is a result of teacher criticism, sometimes of a parental belief in 'natural talent'. As one seven-year old said: 'I'm no good at numbers, neither was my Dad. He says I'm like him.' In studies of the relatively poor performance of American children in mathematics the following factors were among those cited:⁶

- insufficient time and emphasis given to academic activities
- children and parents overestimated the children's accomplishments
- children's academic achievement was not a widely shared goal
- parents showed little involvement in children's schoolwork
- parents believed that 'natural talent' was more important in success at school than hard work.

In contrast, countries such as China and Japan, where levels of mathematical achievement measured by test scores have been shown to be higher than in the USA or in Britain, one factor could be the belief of parents that intelligence is malleable, and that children can achieve educational advancement through effort. In Asian countries, there is a general view that children's effort is even more important than innate ability in determining school success. The most important legacy of this view, linked with high expectations and parental support for learning, is that these children show many of the characteristics of mastery orientation that make for a success in learning.

When researcher Michael Rutter reviewed the literature on the effects of children's education on their development, he concluded that: 'The long term educational benefits stem not from what children are specifically taught but from the effects on children's attitudes to learning, on their self-esteem, and on their task orientation.'⁷ How can we encourage mastery-oriented children, and move them away from a sense of helplessness? How do we help children view the inevitably difficult problems they face in learning as challenges to be mastered through effort? How do we support both self-esteem and self-effort on tasks?

The following sections outline three ways in which teaching children to learn can help enhance self-esteem and mastery orientation. These are:

- *personalised learning relating learning to personal interests, thoughts and imagination, and encouraging a sense of personal responsibility and ownership of the learning process. At its best this is what 'child-centred' or 'student-centred' learning is trying to achieve.*⁸ *Do my students understand how the topic they are learning is relevant to their lives?*
- *reviewing achievement identifying their areas of success and in seeing where and how they can improve in by recognising, recording and reporting achievements in learning and in efforts to learn. Do my students review their progress, effort and goals for the future?*
- *self-assessment encouraging self-regulation to increase control of the learning process, and developing insight into their thinking and learning. Do my students have opportunities for assessing their learning strategies and achievements?*

Personalised learning

I shall only ask him, and not tell him, and he shall share the enquiry with me

Socrates

Personalised learning is a collaborative approach to learning in which students are encouraged to link the content of the curriculum with their own personal concerns. There are two aspects to personalised learning:

- reviewing teaching to see that it links to the personal concerns and goals of students
- reviewing learning so that links are made to the personal concerns and goals of students.

The following example is from a lesson on fractions in mathematics, a subject which often fails to become linked to human concerns. At the start of the lesson, the teacher tries to personalise the topic, by helping the students appreciate how the topic of fractions is relevant to their lives. The teacher 'sells' the topic, and gets the students involved by brainstorming, on the board, examples of how fractions are used in everyday life. The teacher might start by asking: 'Can you think of any examples in life where something whole is split up into parts?' Examples from one class included: dividing things into equal shares – a cake, a bar of chocolate etc.; sports matches – a game of two halves; television programmes; the school timetable; time; weights; measures; journeys; phases of the moon and so on.

An effective way to begin planning for teaching is to review the factual information and skills you want your children to learn. If, for example, you were wanting to teach about another country, you might want the children to learn about:

- the map of the country
- the place of the country in relation to other countries
- places and regions within the country
- the physical environment, weather and climate
- the ways of life of the people, where they live and how they live
- the natural resources and products of the country.

A good starting point might be to write down the key questions you would like to have the children answer about the country. The personal questions to ask ourselves might include the following.

- What do you know about the topic of study?
- What would you like to find out?

Similarly a good starting point with children is to find out what they know, for example, by asking them to write, note, map and share with others their existing knowledge. Also, to ask them what they want or need to find out – what questions have they got? The following is a personal list of questions written by a ten-year old about the proposed study of another country.

- How many people live there?
- What languages do they speak?
- Is it a clean country?
- How many different kinds of transport are there?
- Is it mainly countryside or city?
- Is it a rich or poor country?
- What is their national anthem?
- Is it densely populated or not?
- Do they have many endangered animals there or not?
- Do they have a good government?

The child has here a number of useful questions for research – more powerful because they are personal questions that she or he wants to find out – as well as some means for assessing at the end of the study what *has* been found out. What answers, after studying the topic, would the child now give to these questions – What questions have arisen during the study that she or he would like answering? How could she or he set about finding the answers? What questions have others asked? What might be the answers?

In personalising the curriculum and expecting children to take some responsibility for their own learning, we want them to relate to what they are learning, to try to involve their personal interests, thoughts and imagination. One way that has proved effective is to ask 'you-questions' which aim to help the student identify with the subject matter. 'You-questions' are addressed directly to the student. They should be relevant to personal experiences, interests and feelings and invite personal opinion, knowledge and experience. They can also be discussed and shared with others. Below are listed examples of 'you-questions' .

- What do you know about it?
- What do you want to know?
- Have you ever been to ...?
- Have you ever heard about ...?
- What do you think it feels/felt like ...?

TASK 39

Reviewing personal goals

In any learning task the students can be invited to review what they want to achieve.

- 1 Choose a topic of study and ask students to identify the task and goals (aims) of learning.
- 2 Ask them also to identify the outcome(s) and to specify criteria for success. The chart below shows one way of recording a review of personal goals.

Topic.....

Task

Goal

Outcome

Criteria for success

One aspect of personalised learning is feedforward, in helping the child to set the scene, and identify future targets for learning, another is feedback in helping the child realise what she or he has learned and has achieved. The

process is a continuum, and reflects 'time future contained in time past' (Eliot). Looking back, helps us to look forward. To plan for the future, we need to build on what we know of the past. To know where we are going, we need to know where we have been. We need to set targets, build on achievements, and set further targets for achievement.

Reviewing achievement

What is an achievement in learning? A group of children brainstormed their own definitions and came up with this list.¹

An achievement is something:

- you can be really proud of
- you have never done before
- that you kept on trying to do and finally succeeded
- you have done which you found difficult
- you have worked hard to finish
- you have done what teachers tell you is good.

We tend to thrive under the sun of praise. We want to know what is special about us, what is praiseworthy. But we want the praise to be genuine and to be specific to us. Children need help in identifying their areas of success and in seeing where and how they can improve in the future. The following questions can help in this process.

- What have you learnt? *Assessing learning.*
- What have you achieved? *Assessing achievement.*
- What do you feel good about/proud of? *Assessing positive feelings.*
- What do you like doing/learning? *Assessing preferences.*
- What do you do well? *Assessing strengths.*
- What do you find hard? *Assessing difficulties and problems.*
- What don't you know/understand? *Assessing obstacles to learning.*
- What do you want to be able to do/improve/learn? *Assessing targets and plans for the future.*
- What support would help? *Assessing the need for support.*
- What do you think of yourself as a learner? *Assessing self-esteem as a learner.*

Many teachers see the value of setting aside a particular time to talk through what children are learning and have learnt. It is a review time, a learning conversation, or conference – a time to appraise and assess how the child is doing; to recognise achievements; to establish needs and show that these needs are understood; and discuss the next steps in learning by agreeing and setting targets. The aim is to build self-esteem by developing in the child confidence in themselves as learners and to give them an increasing sense of control over the learning process so that they can become more independent learners.

Finding sufficient time in which to conduct learning conversations and reviews with individual children is a major problem for many teachers. Most find it necessary to adopt a planned approach to managing review

time. Ways in which this can be achieved include:

- *daily reviews setting aside five or ten minutes at the same time each day, for example, after lunch, for a review session with one or two children*
- *weekly reviews setting aside a longer session each week, e.g. one afternoon, to review progress with a group of children*
- *termly reviews setting aside a period once a term to interview each child about their progress and achievements, possibly linked to a parents' meeting*
- *annual reviews setting aside some time for each child to discuss the work of the year and to set targets for the coming holiday/year.*

In review sessions with children the aim is to help them become better learners. Be positive about what the child can do. Keep in mind a wide range of achievement. Achievements can be in the field of personal and social endeavour, taking responsibility, for example, for an aspect of work or activity, being able to work constructively with others, showing persistence when work is difficult and participating in a wide range of activities. Achievements in school include evidence of progress within curriculum areas, new developments in knowledge and skill, and participation in extra-curricular activities. Out-of-school achievements include the development of interests and pursuits (hobbies, collections, computer etc.), membership of clubs and organisations, social and cultural achievements (such as languages spoken), and special skills in music, sport etc. Taking part, if it involves effort, can also be an achievement.

In carrying out a review with a child, try to move from 'what' questions, such as: 'What do you think your best piece of work was?' to the much harder 'why' questions, such as: 'Why do you think your mathematics has improved?' The review should be more than a question-and-answer session, but should encourage children to speak freely and honestly about their learning experiences, and to discuss specific samples of work. As children begin to reflect on what they have done, and what has helped them, they are given the opportunity to reflect on what they could or should do in the future and what will help them achieve these goals.

Sometimes it is helpful with older children to keep a record of the review, to formalise the recording of achievements and the setting of targets. Figure 9.2 shows one way of recording a review.

Self-assessment

One of the aims of this process is to help children move from an external point of reference to an internal point of reference. For example, when one seven-year old was asked about her reading, during a review time with her teacher, she replied: 'I think I'm good at reading because you know yesterday when I was reading with Mum she said, "Well done".' However, another child had some other criteria by which to assess her reading: 'I have improved because last year I couldn't have read a book like Roald Dahl's *Witches*. I still don't know all the words but I can follow the story. I just guess them when I get stuck.'

Review

Record of a review
between.....(student)
and..... (teacher)
on.....(date)

Achievements

What things are you pleased about?

What things have you done well?

What things have you worked hard on and improved?

Who or what has helped you?

Agreed plans and targets

What are your plans for the future?

What do you want to try to achieve?

What will you try hard to improve?

What help will you need?

Signed..... (student).....
(teacher)

Figure 9.2 Review

TASK 40

Reviewing achievements

My school report

- 1 Ask your children to design a school report, e.g. leaving a space for subject title, comment and grade (or mark) as below.

Name.....

Date.....

Subject	Comment	Grade
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- 2 Ask the children to make brief comments and award themselves grades in each area of the curriculum. Use the report as a basis for discussion about how the child sees their own progress in learning.

Reviewing work

One way of structuring a child's assessment of themselves is to give them statements to complete.

- 1 Tell them you want to know what they think and why they think it, e.g. ask the child to complete these four statements relating to a chosen subject or area of study, and to say why they made that assessment:

My best piece of work was.....

The work I most enjoyed was.....

What I found most difficult was.....

In the future I'd like to.....

(My targets for the future/next term/next year are.....)

The aim of these discussions is to make achievement the focus, and to keep in mind a wide range of achievements. Remember that taking part can be an achievement, for example, being a participant in learning experiences, events and activities. Self-assessments are useful for helping children discover not only what they are good at but also to help them identify areas of weakness so that they can begin to think about ways to improve. Sometimes writing about yourself is easier than talking about yourself. The following is a simple format for encouraging children's response to a task or area of learning. You may wish to encourage the child to make a fuller assessment of themselves as thinkers or learners. One way of doing this is to devise a questionnaire that asks a child to respond to a range of aspects of his/her learning (see Figure 9.3).

Self-concept as a thinker

Name Date

The following are statements to help you describe how you feel about your own thinking. There are four possible answers. Tick the one that best describes your thinking. Please answer all the questions.

	Never True	Rarely True	Mostly True	Always True
1 I am not good at thinking
2 I am lazy at thinking
3 I am good at saying what I think
4 I am good at thinking about many things
5 I often run out of ideas
6 I am good at thinking of new ideas
7 I like thinking about difficult problems
8 I find it hard to think in real life
9 I find it hard to concentrate
10 I am good at telling people my ideas
11 I get easily confused in my thinking
12 I usually know how to tackle a problem
13 I am good at asking questions
14 I think before deciding what is right
15 Other people listen to my ideas
16 Other people understand my ideas
17 I think about my thinking
18 I am not as good at thinking as my friends
19 I find it hard to remember
20 I am good at making plans
21 I don't think before I act
22 I am good at thinking things through
23 I find it hard to make decisions
24 I can work things out for myself

Figure 9.3 A questionnaire

Another aspect of student assessment is evaluation of the teaching they receive. What did they think of the lesson? What did they learn in the lesson? What do they still need to learn? Asking children to review what they learnt can be instructive for the teacher as well as for the students. Children are able to assess, in a subjective way but informed by a long experience of teachers and teaching, any lesson or series of lessons. This review can take the form of a scale, a written or spoken review. Lessons can be given a numerical mark, such as a percentage, or judged against an agreed scale, or children can write a short review in a learning log.

Review time needs to be planned. Some teachers prefer to leave time at the end of each lesson or session, others choose a weekly review time. What is important, is that criteria are discussed. What makes for a good lesson? What would help them to learn more? What should they learn next? The following task helps a child to gain a rapid feedback on any learning experience.

TASK 41

Assessing what we know

After a lesson or period of study, ask students to assess:

- 1 what they know (or understand)
- 2 what they think they know
- 3 what confuses them about the topic of study.

One way of recording this is, in three columns or boxes, to write what they:

- (√) know or understand
- (?) think they know or understand
- (x) do not understand (are confused by).

A useful strategy for encouraging the articulation of doubts, problems, confusions and uncertainties is to have a problem box in which students may put 'help slips'. In one class when the children were asked to review the usefulness of their problem box, they wrote the following.

- It's a good way to get messages to the teacher.
- When we get stuck it means it can get sorted out
- Sometimes you need help but do not know how to ask for it. Now we can use the problem box.

Problems can be tackled by the teacher, or shared with the whole class. The message of the problem box is that we all have problems. It helps to say what your problems are and that they can be solved if you ask for help.

Children can also be helped to gain self-awareness through thinking about what goes on in their minds or brains when they think and learn. The aim is to help them to become more self-aware, more conscious of their mental processes and to show them that they have some control over the way their brains work – some self-mastery. The following are some reflective comments by children on how they would describe the workings of their brain:

My brain is like a massive forest. It's full of amazing ideas. But some of these ideas are like shy animals, they hide away in the middle of the forest. I don't

think we can ever really understand how our brains work.

My brain is like an anthill, with millions of tiny passageways. There is always something going on in my head. The ants in my mind never seem to rest. I just hope there aren't any ant-eaters!

My brain is like a naughty puppy. It never seems to do what I want it to. If I've got maths homework to do it wants to read a comic or watch TV. But like a puppy it can be trained.

Children can also be encouraged to draw the workings of their brains and minds.¹⁰ Drawing is one way of organising thinking, another way is through organised talking (see Chapter 4), and another approach is thinking through writing. Writing has a key role to play in facilitating thinking and learning in all subjects. There has been much research into ways of developing the link between thinking and writing.¹¹ Many teachers encourage their students to keep journals, Learning-logs or Think-books as intellectual diaries in which to record their questions, observations and feelings about what has been taught, as a form of continuing review of the learning process. What arises from research into the use of student journals, is that children need help in keeping and learning from their journals. One way of helping children is to make the journal interactive, with the teacher or a chosen response partner making a written response to journal entries. Some teachers prefer to make the journals private, so that children can feel free to record their true feelings and observations – like a writer's journal. Expressing their own observations and knowledge in their own words, helps them to come to know and understand more about what they have learnt and about themselves as learners. Figure 9.4 shows a child thinking, through writing, about the process of writing.¹²

Every child needs a personal tutor, or mediator, of their learning experience who can facilitate the processes of review and reflection. The following are some of the principles of mediated learning which Feuerstein and his team of researchers¹³ have identified as essential to children's learning. The process of review is an ideal means for developing these important metacognitive functions which are the tools of independent learning:

- *inner meaning having a sense of purpose about learning, knowing the reasons for, and the value and significance of learning activities*
- *self-regulation developing the need to think about and plan your work, encouraging self-control and personal responsibility in learning*
- *feelings of competence feeling confident about learning, knowing what you can do and how to get help*
- *feelings of challenge being self-aware, knowing how to deal with challenge and difficulty*
- *communicating developing the ability to communicate, to share thoughts through discussion, writing and creative expression*
- *setting targets setting your personal goals or objectives to aim for, having high but realistic expectations*
- *being aware of self-change knowing that you can change, gaining feedback on learning and identifying achievements.*

Writing.

When I start to write a piece of writing I always build on a central idea, I prefer to work in quietness. If the piece of writing has to be good then I'm always concentrating. First of all I jot down ideas then I arrange them into the piece of writing. I then start to change words, I change non-interesting words for interesting ones. Make your work eye-catching and set it out so it looks good. Check for spelling mistakes. Never waste a good word, always try and fit it in. I like to read others work and grasp ideas from it. Look at ideas from all sides and find their best meaning and use. Use words that fit well in the piece of writing. Never stop concentrating, sometimes it helps to discuss your ideas with a friend.

John Maruaring.
11 years of age

Figure 9.4 A child thinking about writing

Summary

In helping children to review their learning, we can develop in them a more confident sense of themselves and increase their awareness of themselves and of the learning process. This means finding ways to enhance self-esteem and a sense of mastery in learning. This can be achieved through personalised learning which focuses on the needs of the learner, through recognising achievement, setting targets for learning, and through developing skills in self-assessment. The skills of self-assessment can help the student develop increased self-awareness and many of the metacognitive tools needed for independent learning.

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10 Creating a learning environment

Ways to create effective communities for learning

A good school does not emerge like a prepacked frozen dinner stuck for 15 seconds in a radar range [microwave]; it develops from the slow simmering of carefully blended ingredients.

Ted Sizer

I learn best when I'm with other people, sometimes this is in school, sometimes it isn't.

Student, aged twelve

In a tough inner-city school in London a teacher has a class of low-achieving children, many of whom are from socially and economically deprived backgrounds. She is keen to raise a sense of self-esteem and expectations of achievement in her children. She calls them all 'Smarties' and says they are smart and sweet, smart of mind and sweet of nature (they are also of many different colours). By affirming they are smart, not once but repeatedly, she hopes they will come to believe it. She tries to 'catch them being good', good at their work and good in their response to others. She encourages them to make affirmations about each other – 'John tell us who you think has been working well in your group', 'Selina pick out someone who has been helpful to you today', 'Ricky can you find two good things to say about Sophie's story?'

What are the characteristics of a community which supports the success and achievements of individuals within it? One of the characteristics is that of 'high cohesion', which is the sense of belonging, of shared purpose and support within a group. The strength of a high-cohesion group is that it has a strong identity (examples of these might include: a high-cohesion society (like Japan), a high-cohesion school (like Eton), or a successful sports team (like the All Blacks). A potential disadvantage of high-cohesion groups is that individual growth can become subservient to group norms, as anyone who has experienced the stifling influence that village life, or a very close-knit family, can sometimes create. The ideal is to belong both to a high-cohesion group and to one that supports the growth of each individual. The following are some elements that can support an ethos of success in learning for the group and for the individuals within it. A positive climate evolves out of:

- *loyalty nurturing a sense of belonging to a community, showing loyalty to individuals within it, and communicating confidence in their ability to think*

and learn

- *trust involving members in decision-making and giving each some responsibility in negotiating the outcomes of learning*
- *support offering help and encouragement in learning, being committed to the growth and learning of individuals*
- *dynamism showing energy and enthusiasm in the pursuit of goals and sustaining morale when faced with the challenges of learning*
- *expectation setting goals, being clear about assumptions, beliefs and learning outcomes*
- *communication sharing information about success and failure, and creating a common bond of shared knowledge.*

All successful supportive communities share some, or all, of the above characteristics. In good schools, these evolve over time and are the fruit of the sustained vision of the head and teachers within the school. Thus, the traditions or cultural values of the school are built up and provide a continuity of purpose through times of change and challenge. The school is made up of smaller learning communities, such as individual classes, and these can provide *powerful environments for learning*.

Creating a learning community in the classroom

In a sense a supportive group is like a tribe. The themes of identity, support and community – the sense of belonging, inherent and admired in traditional tribal societies – can help create a powerful environment for learning.

One successful programme for building supportive communities in the school or classroom is called 'Tribes'.¹ The Tribes Programme organises a class into groups of five or six children who work together throughout the school year. The children can name friends they wish to have in their tribes, but each tribe must have a mixture of boys and girls and be of mixed ability. The aim is to develop, in each group, positive peer regard, so that it will create a supportive climate for learning that will help enhance self-image, positive behaviour, and academic achievement.

There are certain ground rules that students are expected to honour at all times within their groups. Among the behaviours that are expected to become the norms of the group are:

- *attentive listening paying close attention to one another's words and feelings, giving care, respect and consideration*
- *no put-downs appreciating others, making helpful contributions and avoiding negative remarks, name-calling, hurtful gestures or behaviour*
- *right to pass choosing when to participate in group discussion and activity, having the right to silence within the a group setting*
- *confidentiality honouring the group's sharing, being confident that 'what we say here stays here'.*

These rules, or similar ones agreed by the groups and expressed in their words are posted in a prominent place in the classroom. What makes the tribes process unique is the establishment of long-term support groups

within the classroom, rather than the random and changing groupings found in many classrooms. It emphasises the need to get the setting for learning right and that an intentionally created support system will help create a more dynamic and supportive environment for learning. It stresses the importance of teacher and peer-role modelling to teach interpersonal skills and caring behaviour. In focusing on children's social development, it aims also to enhance academic achievement and the ability to learn.

One of the key aims of creating a learning community should be to foster a sense of inclusion in the group and in any group endeavour – to help children feel included and of value. We want them to be a part of the club of thinkers and learners. This means that three basic opportunities should be provided within any group setting or learning environment:

- introduction *each member needs to introduce himself or herself not just by name but by being given the chance to describe his or her interests and experiences*
- self-expression *each person should be able to express what she or he hopes and expects from the group's time together, a chance to be part of setting the agenda*
- acknowledgement *each person needs to be acknowledged as having been heard and appreciated.*

All learners feel, at times, vulnerable and defensive. Time spent on building a sense of inclusion and trust, is time well spent. Learning is not easy to achieve at times of emotional disturbance or social disruption. If emotional needs are ignored the energy of the learner is deflected away from his or her capacity to accomplish learning tasks. In helping children to state their feelings clearly, or to discuss and reflect on situations of concern we are helping them to learn about themselves and about other people. If we can utilise the co-operative spirit of the group to address problems and support individuals, we are creating powerful allies in the process of creating renewed energy for learning.

Circle time

An activity central to approaches which aim to build a community (see also Community of Enquiry pp.51) is 'circle time'. The usual format for this is to sit in a circle, with the teacher as part of the circle, leading the group in a sharing activity. Experience in the large group provides an opportunity to model the norms we hope the child will follow in other, smaller learning groups. The virtue of a circle is that everyone can see the face of every other member – and can talk person to person with any other member.

It is important that the teacher models the norms she or he hopes the children will learn, and in particular that most difficult of skills – attentive listening. Attentive listening means acknowledging the speaker, giving full attention and eye contact. It means that attention is given not only to the words that are spoken, but also to the feelings behind the words. As one child put it: 'What you feel is part of what you say....' We all find it easy to pretend to listen, but there are tell-tale signs. We can see in the eyes of others when they are not attending, when their thoughts are elsewhere, when the shutters are open but no one is at home.

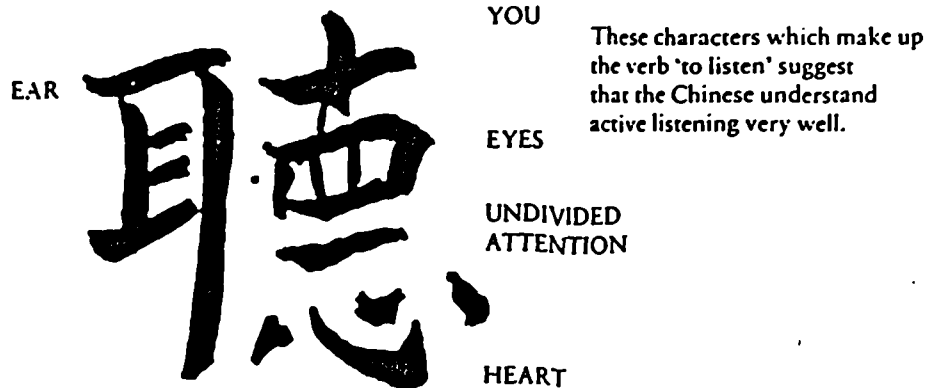


Figure 10.1 Chinese characters: 'to listen'

Some of the active listening skills that we should practise include:

- attending *listening silently with full attention*
- encouraging *encouragement through non-verbal (nodding) or verbal ('Uh huh') means*
- paraphrasing *'What I heard you say was ...'*
- responding *responding to the words, and reflecting feelings ('You sound sad ...')*.

A book written many years ago with the title, *The Geranium on the Windowsill Just Died, but Teacher, You Went Right On*, was about a teacher who refused to acknowledge anything not in her lesson plan. She did not allow time for children to talk about anything not on her agenda. There was no time to mourn the geranium. Many seemingly small events can be enormously important for a child – losing a tooth, falling out with a friend, not understanding what others are doing. In allowing time to report, reflect and discuss, we are showing that learning is about life and what is important in life. The concerns of the learner are equally as important as the concerns of the teacher, and we need to find out what these are.

One way to check on children before they start a learning activity is to provide opportunities for comment, for example, by asking: 'Is there anything anyone wants to say before we start?' 'Are there any problems?' A problem shared is not always a problem halved, but when people are involved together in finding a solution to a problem they are more likely to find a solution and to accept responsibility for making the solution work.

In leading a group or class through a step-by-step process of problem-solving, it may be helpful to recall the teaching cycle of Romance-Generalisation-Precision advocated by Whitehead (see p. 42). In identifying the problem try to get the children to identify with the problem or an aspect of the problem, to embed it in their own human experience by an act of imagination, by making them part of the story. The following task presents one problem and process for group problem solving.

Task 42

Reviewing a problem

Give the group of children a problem to solve.

Ask them:

- 1 What is the problem – whose problem is it, why is it a problem?
- 2 What are the possible solutions?
- 3 What are the best solutions?
- 4 How will we implement their solutions?
- 5 How will they find out if they work?

Sample problem: *Bullying*

Older children are reported to be bullying younger children in the playground. How will the group try to solve the problem?

One step-by-step process would be:

- a) identifying the problem – by getting group members to remember or imagine how they felt when they were young and were picked on by older children
- b) generating solutions – brainstorm in groups ideas for bringing bullying to an end, and list them
- b) choosing the best options – ask each group to select three best ideas, compile a class list of ideas, discuss and vote on the best ideas to solve the problem
- d) implementing the solutions – discuss how to translate good ideas into practice
- e) testing the solutions – what are the criteria for success, who will judge, how and when?

A good time to reinforce the sense of community in the classroom is at the end of a learning activity. This can be done through a process of group review (see Chapter 9) by asking questions.

- What did you/we do in this lesson? (Show and tell.)
- What have you learnt?
- What did you like about this activity?
- What did you not like about this lesson?
- How should we continue what we have been doing?

Another strategy is 'last words', which is to ask all the group to have a turn, if they wish, to say something about the topic that they have not had the chance of saying. During this time no one must interrupt or respond. It is simply a time when each member has one, and only one, chance to say a few last words before the session ends.

Creating a learning community in the school

Research into creating learning environments in school, is building the foundations for a systematic approach to improving the effectiveness of schools.² Its findings give teachers and schools clues as to what they should focus on in improving their schools and their students' chances of success.

One of the keys to school effectiveness identified by Mortimore is 'intellectually challenging teaching'. There seems to be a link between effective schools and those teaching and learning strategies which focus on challenging and developing thinking.

The growing emphasis on school effectiveness and school improvement reflects general concerns about the working of organisations that have concerned managers and politicians over the last three decades. This has coincided with times of tremendous change for both business organisations and schools. Studies of how effective organisations cope with change, what makes for excellence, and how successful organisations relate to their customers and workforce have identified three key factors:³

- the quality of planning within the organisation
- the nature of the culture within the organisation
- the ability of organisations to focus on their key functions.

These match well with what research has identified as the three issues central to the success of schools – development planning, school ethos and quality in teaching and learning.

Over recent years there has been a change of climate in the expectations held of schools. The growing research evidence that schools make a difference has done much to dispel the pessimism of the 1960s and 1970s. Schools had, for a decade or more, been charged by social critics with a cultural conservatism that perpetuated and exaggerated social inequalities. Schools could not counter the effects of class and culture. Some radical critics argued that real education could only be achieved outside of the school system.

Pioneering research in the late 1970s by Rutter et al.⁴ demonstrated that some schools were more effective than others, and that there was a school effect. By comparing students on entry and on leaving school, they developed the concept of added value, which is the educational benefit to the child specifically provided by the school over a period of time.

Studies of secondary schools by Rutter identified some common characteristics in effective schools, which he called 'process characteristics', and these factors have been largely confirmed in subsequent studies in this country and abroad. These factors, in order of importance are:

- leadership
- school climate
- teacher-pupil relationship
- quality of curriculum/teaching
- pupil socio-economic background
- evaluation
- financial resources
- physical characteristics.

Researchers found strong links between some of these features, especially between the most consistent factors such as leadership and school climate, pupil-teacher relationships and learning/teaching. There has been much debate on criteria and research methods used to assess

achievement, but the central question: 'Are some schools more effective than others?' has clearly been answered. Research studies have tended to find that effective schools are likely to be effective for everyone in them. Current research is now probing questions related to the complexities and differences between schools and within schools. For example, are there differential effects between classes in one school, or even within the same classroom?

Researchers have begun to take an interest in 'moving schools', a term taken from business management to indicate dynamic and developing schools, as opposed to 'stuck' or declining schools. Research has supported what many teachers have found from experience – that there can be good teachers in 'stuck' or declining schools, and in 'rump' groups or departments left behind in developing schools. It is clear that effective proponents of change need to value individual differences and be sensitive to the needs of teachers in a time of change. It is also clear that the richest culture for change is one in which everyone has something to gain and where all teachers, parents and pupils are involved in learning.

Improving schools

The effective school is an improving school. Disraeli once said: 'In a perfect man change is constant'. We might rewrite this to read 'in a perfect school change is constant'. However, it is the quality of change that is the key, and the way that change affects every individual and aspect of the school. The three key areas that relate to effectiveness and improvement are:

- school development planning
- ethos
- teaching and learning.

School development planning

School development planning is the enabling mechanism whereby schools can adopt a planned approach to change and improvement. Schools, in many European countries, and in Australia, Canada and the USA, are being required or encouraged to create a rolling programme of school development plans. The school improvement process has been likened to a journey, planning becomes the means of transport to the destination, and the plan is the map for the journey. One of the dangers is that of the map becoming the destination. School improvers need to beware of planning being a mere pen-and-paper exercise.

Improvements within the classroom depend on improvements outside the classroom. School development planning must focus on 'the total school', so that all elements that are important to teachers, governors, parents and pupils are included. Important elements of development planning include:

- process *the focus of planning, the planning team, the planning programme*
- ownership *the widest participation and collaboration in the process, negotiated outcomes*

- evaluation *agreement on what, why and how the plan is to be monitored and assessed.*

There are two questions that can be asked about any plan.

- Does the plan support the aims and ethos of the school?
- Does the plan result in improvements in learning, teaching and attainment of pupils?

School ethos

One consistent finding of research into effective schools is that 'ethos' is an important ingredient. Ethos is defined as the climate of the school, and is expressed in the organisational conditions and web of personal relationships within the school. Ethos and school culture is difficult to define. It is the outward expression of the 'secret harmonies' of the school, those norms, beliefs and values which become modes, standards and rules of operation. As one inspector put it: 'It's what you feel in your bones about a school when you have been in it for some time'. It is clear from research that there is something intangible about a school, a style, tone and atmosphere that affects pupil performance. An effective school has a positive ethos, reflected in a range of factors that include:

- a sense of identity and pride in the school *good schools have a sense of cohesion*
- a welcoming environment *good schools present themselves in positive ways*
- high pupil and teacher expectations *good schools expect the best of people*
- strong and purposeful leadership *good schools are well managed*
- positive attitudes towards pupils *good schools motivate through praise*
- work in partnership with parents and the community *good schools involve others.*

One way in which schools can identify actions needed to enhance their ethos is to conduct an ethos survey – to ask pupils, teachers and parents what they think of the school and how it could be improved. Examples of ways to improve school ethos might include developing opportunities for extra-curricular activities, encouraging parents and members of the community to involve themselves in school activities, or providing reward systems in which all pupils can benefit. Indicators of success in developing school ethos might include pupil achievement in academic and non-academic pursuits, better attendance, more time on task in the classroom, more investment in homework, and perceptions of better teacher-pupil relationships.

Improving teaching and learning

Good schools are said to be 'learner centred', 'learning enriched' and a 'learning community'; one in which adults as well as students are engaged in lifelong learning, dedicated to the growth of individuals and the realisation of human potential. Research, however, highlights a tension between the needs of the individual as learner, and the job of the teacher to cater for

the many and simultaneous dimensions of learning in the classroom. In looking at improving teaching and learning we need to look at what teachers do and what learners do, and the critical relationship between the two.

Research highlights the differences in learning style and developmental needs of students. Classroom teachers and school policies will seek maximise learning opportunities for individuals in different ways, for example, by providing opportunities for:

- independent learning *where the pupil's relationship is primarily with learning resources*
- supported learning *where the relationship is primarily between learner and teacher*
- peer learning *where there is a learning/teaching relationship between pupils in pairs and groups*
- extended learning *supported learning out of school, including homework and home study.*

We know that effective teachers exhibit an impressive range of competencies, including *curriculum knowledge* (the content of teaching); *pedagogical knowledge* (the skills of teaching in theory and application) that includes the skills of presentation, organisation and management of learning; *psychological knowledge* of children as individuals; and *sociological knowledge* of the nature of cultural and social groups. In addition, they need *evaluative skills* to assess children's learning and the effectiveness of their own teaching. Effective teaching is a complex activity which needs not only the professional skills mentioned, but also personal qualities such as imagination, creativity and sensitivity to stimulate, support and encourage learning. We know that even this list, however, is not sufficient to guarantee learning. Determined pupils can and do resist even the most skilled of teachers. Learning can also take place in the absence of effective teaching. However, the best results are likely to occur when there is a match between effective teaching and learning.

How can we tell when there is effective teaching and learning? The following are some indicators.

Student outcomes

- achievement *evidence of progress and achievement*
- ethos *general attitudes to school and learning*
- self-concept *measures of self-concept and motivation as learners*
- behaviour *measures of improved behaviour*
- attendance *good attendance/truancy measures*
- further education *measures of post-school progress.*

Teacher/school outcomes

- ethos *survey of attitudes to school/teaching*
- professional development *survey of teacher as learner/extended professional study*

- staff absence
- quality of teaching *student outcomes and relationships*
- assessment *monitoring student progress and self-evaluation.*

A key lesson from school effectiveness research is that the ends – outcomes in terms of effective teaching and learning – must always be kept in sight. Schools must always keep in sight their primary purpose, and while keeping a keen eye on the internal challenge both to maintain what is good and to strive for the better, they should also look at the example of other successful schools.

Effective schools – places where children succeed

Research reports into over 700 primary and secondary schools identified as excellent, in the USA, were published by Research for Better Schools (USA, 1987–8). Its authors analysed the qualities and characteristics that are common to effective primary schools and effective primary school teaching. Questions arise of course: What constitutes success? How can successful schools be identified? How can you compare schools serving different communities? In this study, the schools were identified against various criteria of quality. The schools identified came from a variety of social settings, and the conclusions turn out to be surprisingly similar to other studies researching into school effectiveness, such as Peter Mortimore's junior school project.⁵ From this research two lessons are clear.

- Excellence can be achieved anywhere – in urban, suburban and rural schools, in schools varying in size, from 40 to over 1000 pupils, in both streamed and unstreamed schools.
- Themes that work are within the reach of all schools.

Research into effective schools identifies as indicators of quality and effectiveness the following ten elements:

- teaching that develops competence and character
- setting high expectations, monitoring standards and rewarding results
- having school leadership
- having clear goals and core values
- creating a professional work environment
- having positive student-teacher relationships
- having the resources to facilitate teaching and learning
- working in the community
- solving problems
- being unique.

Teaching that develops competence and character

Good schools combine effective teaching (clear goals, a broad but rigorous curriculum, and capable committed teachers) with successful socialisation of students (characterised by positive behaviour, good work habits and a commitment to the school community). Teachers had clearly focused views on the needs of their children. The most frequently mentioned needs were:

- basic skills – 87 per cent
- higher order thinking skills – 32 per cent
- self-esteem and personal development – 31 per cent
- good citizenship/preparation for adult life – 31 per cent.

In effective schools resources and programmes vary. What is common is teachers who work hard to provide active and intellectually challenging teaching in a warm, supportive environment.

Setting high expectations, monitoring standards and rewarding results

Good teachers and good schools set and communicate high expectations of academic performance and behaviour. Successful schools believe that all pupils can be motivated to learn. They are characterised by intensive care and strong reward or recognition systems. They make increased demands on their pupils, but they balance this with increased recognition for success, for example, in formal year achievement assemblies, and informal use of congratulatory messages to pupils and parents.

To be maintained these standards must be monitored and reinforced by appropriate rewards. The dilemma is that you cannot hold uniformly high expectations of all students. Good teachers work to overcome this by maintaining high standards for their classes over the long run, while, in the short term, varying their expectations for individual students, motivating their best work and recognising their achievements.

School leadership

Effective leadership is essential for school success. Dynamic leadership often stems from the head, but usually is shared with other professionals in school. There is no one style or formula for effective leadership. The best leaders adapt to their local school context.

- They set and maintain a clear direction, articulating a vision or mission for the school.
- They facilitate the work of staff, with policies and programmes that support professional work.
- They model commitment to a collective focus on the goals and standards of the school.

There is not just one leader. Leadership in good schools is dispersed. Good leaders develop other leaders and create leadership teams where many individuals take leadership roles. Good leaders link strong monitoring control, with collective responsibility and a maximising of individual autonomy (similarly good teachers do this in the classroom).

Clear goals and core values

A shared purpose is achieved by agreeing common goals. These are given clarity by being written down and shared with all in the community – teachers, students, parents and local community. School success comes from vision linked to action. The shared purposes must be taken seriously and translated into action. Such a vision can form the basis for decisive

action and the creation of a shared moral order. Establishing priorities will help to give them clear identity and can strengthen loyalty.

Creating professional work environments

Good schools share a collective sense of control. Individuals do not feel isolated, there is a sense of community, a satisfaction from being part of the group and school. This is achieved by maintaining the right balance of control and freedom. Seven elements are identified in the research as contributing to developing good people and a good environment:

- a sense of belonging
- a respect for teaching and for teachers
- a sense of control over the job
- support for personal and professional development
- care for the physical condition of the school
- recognition for effort
- reward for achievement.

Effective schools aim to raise the professional status of their teachers. They do this by increasing teachers' decision-making responsibilities and by creating good working conditions. This, in turn, is reflected in high staff attendance and low staff turnover. A sense of community and common purpose is fostered by making group involvement a priority in decision-making, building in planning time, and in showing appreciation of good work.

Positive student-teacher relationships

Successful schools and classes are characterised by students who try harder and show greater effort. They are well motivated. How is this achieved? Students are motivated through formal and informal relationships. In many of these schools, teachers and students are given opportunities to meet informally, for example, through extra-curricular activities, or through use of libraries, computer centres or other facilities in their free time, or in time when they can seek out a teacher for personal assistance. In some schools, each department has a work/resource centre open to students outside class time. In others, each student has a personal tutor who follows their career (about 10–15 students per tutor) and supports their progress through school. Good schools tend to work on being caring schools. One way they do this is to use their resources to provide lower pupil/teacher ratios, more pupil/teacher contact.

Resources to facilitate teaching and learning

Adequate resources, and the use of resources for the maximum effect can make a big difference to a school. Vital resources include:

- *time maximum use should be made of classroom learning time, with few interruptions, non-teaching activity reduced to a minimum, and time on learning tasks maximised*
- *space good schools and teachers try to use every available space for learning purposes*

- voluntary help *good schools have active voluntary help programmes to support teaching and learning.*

Working in the community

Good schools are characterised by high degrees of parental and community involvement. Two keys to community links are:

- a broad definition of community to include neighbours, local businesses, other service organisations, senior citizens and any others willing to help the school and its children
- strong communication links including home/school, pre-school and post-school links, with regular letters from staff summarising goals/achievements, previewing studies and informing news and needs. These links are pursued with energy, sincerity and seriousness, and are seen not as window-dressing, but as a critical element in school success.

Elements of working with the community include human resources, such as voluntary help in clerical duties, to teach, tutor, help with, plan and implement activities. Many schools have active volunteer programmes, such as a 'grandpeople programme', for non-parents and the retired, to help with groups or with specific subject skills, or as consultants. Public relations helps develop community links through strong PTAs, informative newsletters, sponsorship and fund-raising. Community service is shown by the way the schools invite themselves into the community to share and to serve. These, and other ways, help to build the identity of the school and affirm its core values.

Solving problems

A characteristic of all schools, including the most successful ones, is that they have problems – obstacles to success. These may include inadequate facilities, inadequate funding, poor discipline, low attendance, falling rolls, complacency, drug abuse, low standards, poor school spirit, poor community relations and so on. Successful schools try to identify their problems and search aggressively for solutions, for example, in short 'target sessions' fifteen minutes before school to discuss a problem student. They tend to be solution-focused rather than problem-focused.

The path to excellence is strewn with obstacles. There is an underlying need for stubbornness and commitment in the face of problems, an unwillingness to accept defeat or mediocrity, not settling for good enough but seeking to do better. This involves not just talking about action, but a 'can do' philosophy showing itself in a willingness to do some positive problem-solving.

Being unique

Excellent schools, like excellent teachers, are all different. They all have their own unique characteristics, indeed they often strive to achieve uniqueness. They are innovative and open to change while holding fast to the core of their vision and values. They are responsive to those whom they

serve. They value what is special about their learning community. They have a bias for action, for getting on with the job, but they like to do it in their own way. They have the capacity to renew vitality and performance. They use informed opportunism to allow for a flexibility in planning, to make the most of 'happy accidents'. They have a commitment to teaching and to the peculiarities of their school and of the team working within it.

Task 43

Creating a learning environment

What goals or outcomes do you want for your students?

- 1 How are they communicated?
- 2 Who knows them?
- 3 When are they reviewed?

Identify up to 7 (plus or minus 2) characteristics of the learning environment which you wish to create.

List these characteristics in order of importance.

The evidence of this research shows that successful schools do not necessarily have new approaches. What they do have are high levels of awareness of, and participation in, strategies that are tried and tested and that work. It is an incomplete picture with many pieces missing, but the themes here reflect the general conclusions arising from research literature. Specific policies and practices may be less important than the standards accepted by teachers and students and the general ethos that unites them into a caring community. From a working consensus about the purpose of education, comes a clarity of intent and, from this, all else (including a sense of pride and commitment) can follow. Research shows that there is no single or simple answer, no one solution or magic formula. Success comes from the chemistry of all the small positive things that count, blended by the uniqueness of the teacher and school in different ways to create places where children succeed.

A powerful learning environment in home, class or school provides a continuity of purpose, and a stable and supportive framework where students are encouraged to think, question, plan, discuss and map their ideas, to be divergent, to work with others, to respond to coaching, to review and reflect on their progress. As one child wrote about their ideal school: 'It is a place where you are encouraged to be yourself. They expect the best of you, and you feel at home there. It is a place you can always return to in your mind.' It is a place that lives in the present, but looks to the future. In the words of Kahlil Gibran:⁶

*Your children are not your children.
They are the sons and daughters of life's longing for itself.
They come through you but not from you,
And though they are with you yet they belong not to you.
You may give them your love but not your thoughts.
You may house their bodies but not their souls,*

For their souls dwell in the house of tomorrow, which you cannot visit, not in your dreams.
 You may strive to be like them, but seek not to make them like you.
 For life goes not backward nor tarries with yesterday.
 You are bows from which your children as living arrows are sent forth.
 The archer sees the mark upon the path of the infinite, and he bends you with his might that his arrows may go swift and far.
 Let your bending in the archer's hand be for gladness.
 For even as he loves the arrow that flies, so he loves also the bow that is stable.

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THEME 2 Part 11**Fisher R. (1995) Socratic Education**

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Socratic Education

Abstract:

This paper explores the use of the Socratic method in promoting philosophical enquiry. Two broad approaches to developing a Community of Enquiry are outlined - formal lessons for students in Socratic enquiry, and an infusion approach to Socratic teaching across the curriculum. The European tradition of formal Socratic enquiry is compared with the American Philosophy for Children tradition of Community of Enquiry. Evidence is drawn from the Philosophy in Primary Schools (PIPS) project in London schools, to illustrate ways of building a learning and teaching community in which philosophical enquiry and questioning play key roles.

The unexamined life is not worth living

Socrates (Apology 38a)

There may be many kinds of life worth living, but for Socrates the unexamined or unquestioned life was not one of them. What did he mean by this? What he seems to have meant is that a characteristic of a human life is to be critically aware of what we believe and what we do. And if we are not reflective or critical we will lead unfulfilled lives, our thinking becoming a prey to prejudice and conflict, and that 'there is something disastrous about allowing our everyday ideas to remain in a state of unresolved conflict'¹. Part of the point of education for Socrates is to make us aware of our ignorance, of the conflicts of ideas and of current problems, and to show us that there is a method of dealing with these. This method exemplified by Socrates in the writings of Plato has a long history², and in recent years there has been a revival of interest in the philosophical³ and educational⁴ ideas of Socrates. But what is Socratic teaching, and is it relevant today? This paper looks at the way Socratic Teaching can help develop one of the most important elements of human thinking - philosophical thinking⁵.

What is philosophical thinking?

Philosophical thinking is a matter of thinking about thinking, and as such it has both a cognitive and metacognitive content. The cognitive, or conceptual, content includes the exploration of the most basic ideas and problems of everyday life, such as: *Who am I? What is the world really like? What should I believe? What options do I have? How should I live my life?* and so on. The metacognitive content is about improving one's own thinking and reasoning, so that one has a better understanding of oneself as a thinker and better tools with which to examine whatever subject matter is under review⁶.

One of the reasons that philosophical enquiry is needed in learning is that intelligence alone is not sufficient to realise learning potential. Intelligent people are not necessarily successful at thinking and learning. They may fall into what Edward de Bono calls the 'intelligence trap' of making instant judgements, of jumping to conclusions, without taking time to think about and explore alternatives. They may close off the opportunities to think and learn more. This impulsivity, or tendency to premature closure, is a characteristic of under-achieving children at all levels of intelligence. Thinking is defined by de Bono as 'the operating skill with which intelligence acts upon experience'⁷.

One of the characteristics of skillful thinking is *exploration*, the ability to explore a situation before making a judgement. To expand consciousness so one can see more in any situation, more viewpoints and more option. Widening the range of response so that one opens up more potential paths of exploration is the heart of creative thinking and living. These thinking skills are not automatic, but they can be developed through philosophical enquiry.

We become creative when we are able to look at things from a new perspective Einstein, who believed that the key to learning was flexible thinking, said - 'To raise new questions,

new problems, to regard old problems from a new angle requires creative imagination, and makes real advances'. According to Piaget, 'To understand is to invent'⁸. We make knowledge our own 'by reconstructing it through some creative operation of the mind. The mind said Oliver Wendell Holmes, 'once stretched by a new idea, never regains its original dimensions'.

Torrance suggests that creativity is 'a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies, testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results'. This is also a good definition of philosophical enquiry. But how is it achieved in practice?

A number of creative thinking techniques and teaching strategies, have been found helpful in developing divergent thinking. The Socratic method of teaching through questioning and dialogical enquiry is one way to support sustained creative effort in thinking. But what is the method and how is it best used?

What is Socratic teaching?

One of the reasons that Socrates remains of enduring interest is that he is an enigma. He left no writings of his own and our knowledge of him derives largely from the writings of Plato. In the Platonic dialogues Socrates plays many roles, and it is not clear that his approach can be summed up as one method. Some have seen Socrates the educator as 'in some ways the greatest of good men and certainly the wisest' but others have criticised him for his arrogance, directiveness and dominance in discussion⁹. The contradictions in Socrates character mirror the contradictions characteristic of many teachers - a mixture of patient listening and preaching, of humility and arrogance, of kindly tolerance and aggressive persistence, a profession of ignorance and a jealous rivalry with fellow teachers. What then was the nature of the pedagogy that Socrates developed in the agora and open spaces of Athens?

It is clear that Socrates saw an intellectual and moral vacuum in the society that he lived in. The old order of social and moral custom was breaking down, and the new education that was replacing it, inspired by the sophists, was worldly and materialistic. Perhaps there are parallels here with our society and its preoccupations today. When the sophist teacher Protagoras was asked whether he believed in the gods, he is said to have replied: 'The question is complex and life is short'. Man (or human needs) was to be the measure of all things. Socrates did not believe he knew the measure of all things. He was not a sophist or teacher in the sense that he presented himself as a learned or all-knowing person. He was a philosopher in the true sense of the word, as 'one who loves wisdom'. As a teacher what Socrates was trying to establish was a new moral and intellectual discipline founded on reason, and a method of enquiry through questioning. The marketplace for Socrates was more than a place for making money, it was a space for thinking, for asking questions and for developing one's creative judgement about important and complex human problems.

To ensure that our lives are properly examined we should not merely accept the views of others, or rely on our own solitary meditations. We must engage in discussion. By listening and responding to what others think we come to learn what it is to think for ourselves. In articulating, sharing and modifying our ideas through the process of dialogue we come to take responsibility for what we say and think, and 'empower others to do these things to'¹⁰. To educate, for Socrates, could not simply be a question of transfer of knowledge. Education was an activity of mind, not a curriculum to be delivered. To be involved in learning in a Socratic sense is to be involved in a personal drama, for it depends both on critical thinking and emotional commitment. It has both a rational and a moral purpose, it exists to engender intellectual virtue, a thinking that engages and develops the learner as an individual and as a member of a learning community¹¹.

Socrates justifies the use of dialogue as a means of approaching truth through the use of reason in a shared enquiry. Socrates believed that a wise person, or teacher, is one who has recognised their own ignorance and uses it as a spur to better understanding. This may have been little more than the debater's trick of showing 'scholarly ignorance', but it was the peg on which he hung his philosophy of education.

This philosophy can be roughly summed up as:

1. knowledge can be pursued, and can lead to an understanding of what is true
2. the search for true knowledge is a cooperative enterprise
3. questioning is the primary form of education, drawing out true knowledge from within rather than imposing knowledge from outside
4. knowledge must be pursued with a ruthless intellectual honesty¹²

For Socrates the search for truth is also a moral enterprise. It is to do, in D.H. Lawrence's words with the 'wholeness' of a person 'wholly attending'.¹³ At the centre of Socrates moral concern is the *psyche*. This is generally translated as 'soul', but it encompasses under a single head the life-principle, intellect and moral personality. His mission he said was to persuade people 'first and foremost to concentrate on the greatest improvement of your souls' (*Apology* 30). One element of this, and one function of teaching through dialogue was to gain self-knowledge. This is the Delphic injunction: 'Know yourself', expressed so well by the Elizabethan poet Sir John Davies:

*We seek to know the moving of each sphere,
And the strange cause of th' ebb and flow of the Nile
But of that clock within our breasts we bear,
The subtle motions we forget the while.*

*We that acquaint ourselves with every zone,
And pass both tropics and behold the poles,
When we come home, are to ourselves unknown,
And unacquainted still with our own souls.¹⁴*

If there is one constant in the research into effective thinkers and learners it is that they know more about themselves as thinkers and learners. It is this metacognitive element in human intelligence that is a focus in the most successful thinking skills programmes and teaching strategies.¹⁵ For Socrates the search for this kind of self knowledge through dialogue was linked to the paradoxical belief that virtue (*arete*), in the sense of 'goodness' and 'excellence', is knowledge. If I really and fully knew which course of action was best how could I fail to follow it? There is an ambiguity here about what 'best' means, between a narrowly ethical sense and a more general sense. What Socrates seems to be arguing against is the pragmatism of the sophists, and of relativists today, who claim that there can be no absolute standards of truth or goodness. Socrates believed that there was a goal towards which a dialogue, if it was to be philosophical should be heading, which was a personal understanding of what was true and right in knowledge and action. It is because we don't know the truth that we need to talk.

The Socratic method of teaching is through dialogical enquiry facilitated by questioning. The teacher is to assist people to give birth to their own ideas (Socrates likened his method to that of a midwife). The aim of education is to uncover, through discussion what our personal understanding and knowledge is in order to discover the truth. This personal understanding is gained through trying to define more clearly the concepts we use in everyday speech, and so helping us to understand more about the world and more about ourselves, so that we become better able to lead a good and fulfilling life. This final point brings Socrates closer to the sophists of his day, and to a utilitarian view of education, in that Socrates tended to equate the good with the useful - so the Socratic method would also help develop intellectual and communicative skills, and that these would be taught as much by the model of the teacher as the process of enquiry. But many argued then, as they do now, that the Socratic method is not a desirable philosophy of teaching.

Socratic versus Academic: two traditions of teaching

Traditionally the contrast has been drawn between the 'Socratic method' and 'academic' traditions of teaching (from the Academy, which Plato founded). The following is a summary in simplified form of the main differences between these two traditions of education, both of which have had adherents throughout educational history, and have champions today¹⁶:

Fig 1: The Socratic and Academic traditions

	The Socratic method	The Academic tradition
1.	Philosophy is an active process	Philosophy is a learned body of teachings
2.	Philosophy is questioning	Philosophy is dogmatic
3.	Philosophy is inductive	Philosophy is deductive
4.	Philosophy is linguistic	Philosophy is conceptual
5.	Philosophy is open to all	Philosophy is for the few
6.	Philosophy is applicable to life	Philosophy is abstract truths
7.	Philosophy is dialogue (oral)	Philosophy is written

For Socrates philosophy was an activity, something you do, rather than a set of philosophical truths to be learnt. To become a philosopher you need to acquire philosophical skills, you need to know how to philosophise¹⁷. To acquire these skills you need to practice with someone more skilful than yourself. In the earlier dialogues Socrates made use of analogies with martial arts - you begin by sparring with a teacher, and later you become an equal. It was a process in which the teacher, professing ignorance, was also learning. Philosophy for Socrates was the highest form of cognitive apprenticeship, which benefitted both teacher and learner. Whereas for Plato it was a body of truths that had to be learned and understood. The teacher as expert fed the student with knowledge, and the student was a passive learner in the process. For Plato truth was an objective body of knowledge, for Socrates knowledge is obtainable but in practice needs always to be questioned.

The principal characteristic of the Socratic method, according to Aristotle¹⁸ was the use of 'inductive' arguments, which is the process of reasoning from particular cases to general truths. The Socratic method was more than this for the particular cases he started from was what other people said and thought. He believed people learned to become philosophers not by being instructed in philosophical concepts or by being given academic knowledge but by being drawn from their pre-philosophic state into a questioning and reflective awareness of what they believed and of the words used to express those beliefs. Philosophy was linguistic and the ways in which we seek to structure or mirror reality in words. He wanted to find out what people meant by what they said. The problem in seeking truth through a search for true definitions is that any definition uses words which themselves need definition, which is why a genuinely Socratic dialogue often ends inconclusively.

Socrates believed that philosophy was open to all, and that philosophical skills could be developed by anyone who had the power of speech. Plato on the other hand argues that dialectic (philosophy) is an academic subject to be introduced after many years of training and to those who have reached the age of thirty¹⁹, and professional philosophers today have echoed this view arguing that philosophy is not 'an appropriate subject of study at school'.²⁰ There is no philosophy for children in the academic world of Plato, but Socrates saw philosophy as of benefit to everyone, including children (cf the dialogue with the slave boy in *The Meno*). Philosophy was of practical value - it would help you do your job better and make you a better person.

One of the major differences between the Socratic method and Plato's academy is the Socratic view that the spoken word is superior to the written word. A dialogue is interactive, it forces on the participants the need to articulate thinking and personal understanding. The experience of participating in a Socratic discussion can never be the same as reading a dialogue. In the *Phaedrus* Socrates argues that writing and speech-making (lecturing) are poor instruments of education because they merely rely on rote memory, they do not express a lived process of

mutual enquiry. Among the biggest changes set in motion by Plato's academy was the shift from open discussion to lectures and written texts, from oracy to literacy. This academic tradition persists in the emphasis in educational practice today on written examinations and coursework, and the emphasis on individual or private study. What the academic tradition recognises is the value of the written word as a vehicle of thought, and the use of personal writing as a powerful means of encouraging students to make meaning and to express understanding. What is needed perhaps is a better balance between the Socratic and academic modes of teaching. We need people who are knowledgeable in a range of academic and practical disciplines, but who are reflective and critical about what they know, who can apply their learning creatively to practical situations, who are articulate in speech as well as writing, who can cooperate with others, who can see things from different perspectives, who are willing to revise their ideas and who committed to lifelong learning.

There is a need at all levels of education to use talk more effectively for learning. This is seen in the problems that many students have in articulating their ideas, in the needs expressed by employers for improved personal skills in communication, cooperation and teamwork in their employees (see Fig 2), and in the needs of society for creative participants in the processes of democracy.

Fig 2: Characteristics significant to recruiters

Personal skills sought by employers	
1 = ranked most significant	
1.	Oral communication
2.	Teamwork
3.	Enthusiasm
4.	Motivation
5.	Initiative
6.	Leadership
7.	Commitment
8.	Interpersonal
9.	Organising
10.	Foreign language competence

Source: Personal Skills Unit, Sheffield University, 1991

There seems a strong case here for more Socratic teaching to develop the competencies and dispositions of articulate and creative thinkers. What then are the implications for teaching in the classroom? The discussions that Socrates had in the marketplaces of Athens were voluntary. How can we infuse Socratic teaching into the involuntary context of the classroom?

Socratic teaching today can be divided into two broad approaches:

1. Socratic enquiry - formal lessons of Socratic enquiry
2. Socratic questioning - an infusion approach to Socratic teaching across the curriculum

1. Socratic enquiry

In this century a European tradition of formal Socratic enquiry has been inspired by the work of Leonard Nelson²¹, his disciple Gustav Heckmann²² and by philosophers trained in the method, principally from Germany and the Netherlands but extending to Britain²³. For Nelson the power of the Socratic method lies in *forcing* minds to *freedom*. Only persistent pressure to speak one's mind, to meet every counter-question, and to state the reasons for

every assertion transforms the power of that allure into an irresistible compulsion.²⁴ The essential skill of the teacher is to give responsibility to the student, to give no answers, but to set the interplay of question and answer going between students. The aim of education for Nelson is 'rational self-determination'. This is not to be gained from learning the rules of logic *in abstracto* but by the learner exercising the faculty of judgement. The mere asking and answering of questions is not sufficient to exercise the faculties of judgement. The explicit aim is to help students find an answer to their questions question but the implicit aim is to force participants through dialogue to express their thoughts clearly, to systematize judgements and to test their own beliefs against the arguments and views of others.

The method of Socratic teaching for Nelson lay not in the teacher giving answers but in asking questions, for example: 'What do you mean by that?', 'Can you give an example?', 'What has the answer to do with our question?' 'Who has been following?' 'Do you still know what you said a few moments ago?' 'What question are we talking about?' As can be seen from the last question a characteristic of the Nelson/Heckmann style of Socratic teaching is that the focus is kept on the question in hand, and the emphasis in discussion is on the experiences and thinking of the participants involved rather than on what they have read or experienced second hand. The aim is to reach some form of consensus or agreement between all participants.

Part of the process is a review at the end of each session, in which students and the teacher write down their thoughts about the discussion. This provides an opportunity for quiet reflection, and helps participants to explore *their own personal understanding of what was said*. These reviews can provide a starting point for the next session, as an aide memoire or to introduce a new line of enquiry.

In America the tradition of 'Community of Enquiry' developed by Matthew Lipman, Ann Sharp and others was influenced by the philosophies of Socrates, John Dewey and C.S. Peirce. Lipman and his followers have produced specially written educational materials - the Philosophy for Children (PforC) programme - to create a curriculum of philosophical enquiry for use in primary and secondary schools. Though they share many similar features of pedagogic practice derived from the Socratic Method there are some differences between the Philosophy for Children approach and the European tradition of Socratic Dialogue (fig 3):

Fig 3: Philosophy for Children and Socratic Dialogue - some differences

Philosophy for Children	Socratic Dialogue
Philosophical story as starting point	Philosophical question as starting point
Free ranging discussion	Focus on one question or problem
Expression of alternative viewpoints	Aim for consensus of opinion
Enquiry through dialogue	Dialogue includes a metadiscourse
Questions written before discussion	Questions or statements are written during discussion
Oral review of discussion	Written review of discussion
Follow-up activities and exercises	Further dialogue

The Philosophy for Children programme consists of specially written philosophic novels appropriate to different age groups, and teacher's manuals containing discussion plans, activities and exercises. The characters in the novels model aspects of the ideal community of philosophical enquiry. Children (students or adults) generate their own questions for discussion after shared reading of an episode in the story. The community agrees which

question to discuss, and the teacher models a Socratic approach to facilitating the discussion and any follow-up activities.

In Socratic Dialogue no special educational materials need be used. A philosophical question is chosen by the facilitator for discussion, and an important element of the dialogue is the meta-discourse. The facilitator and participants are encouraged to think about how the discussion is being conducted and can voice at any time their pleasure or displeasure about the behaviour of others or the way the problem is being tackled. Meta-discourse allows for the feelings and frustrations that may arise during discussion to be aired, without affecting the content of discussion. In Philosophy for Children communities of enquiry questions are written down on a blackboard or flipchart mainly to set the agenda at the beginning of a session, whereas in Socratic Dialogue questions and statements are added during discussion to provide an overview and to monitor progress.

The aim of Socratic Dialogue is to achieve consensus. The facilitator encourages participants to reformulate what they said earlier, and to include in their own words the views of others so as to focus on points of agreement in the subject under discussion. Philosophy for Children facilitators tend to emphasise 'dialogue across differences', where difference of viewpoint can be challenged and questioned. Socratic dialogue is more directive. The facilitator keeps attention focussed on the question being discussed, whereas Matthew Lipman describes a Philosophy for Children community of enquiry as moving 'forward indirectly like a boat tacking into the wind.'²⁵

Despite differences of emphasis and practice what unites these two methodologies is the belief in the formal practice of philosophical enquiry as a shared experience focusing on questions of importance for the participants, and in which the teacher or facilitator is 'philosophically self-effacing' and adopts a role of scholarly ignorance. The focus is on what the students have to think and say rather than on what the teacher has to say. Indeed in Socratic dialogue the essential role of the teacher is that of questioner and facilitator of discussion. The following are examples of this in practice taken from a discussion on thinking between a group of 11/12 year olds:

- RF: Do you think all the time or just some of the time?
- Child: It depends what you mean by thinking.
- RF: What do you think it means?
- Child: When you're asleep you are not really thinking because you are not talking to yourself in your mind
- Child: You only think some of the time
- Child: You relax
- Child: You rest
- Child: You're not just relaxing ...you can sleep
- Child: When you're asleep your mind is still working ... like it is dreaming and stuff like that.
- RF: So thinking is different from your mind just working?
- Child: Thinking is talking to yourself in your mind. You say things to yourself, like you're talking.
- Child: And talking to other people
- Child: I think that thinking is talking in words

- RF: Can you think without words?
- Child: You can think without words... you can think in pictures as well
- Child: I agree with Tom. You can think in words and pictures, like I'm thinking of a cartoon, and that's words and pictures.
- RF: Does everyone agree that you think in words and pictures?
- Children: Yeah
- RF: Have we decided that we think while we are asleep?
- Child: No, you've got to be conscious. You've got to know you are thinking otherwise you are not thinking
- Child: I disagree with Tom. If you dream you are thinking...
- Tom: No because you can't change anything about it. You don't know what's happening
- Child: Thinking is your thoughts. Your thoughts is what you get when you think. I think, he thought
- RF: Perhaps it would help to ask... can you think without thinking of something?
- Child You can't think without thinking
- Child You've got to think of something. If you don't
- Child You can't think of nothing.
- Child No. I agree with Paul, there is always something going on in your head. There's never a time when there's nothing going on ... you'd be dead.
- Child: What happens when you're unconscious?
- Child: You are still thinking, but you don't know what your thinking ... if you're knocked out. That's what it means. you're out .. you are out of your mind.
- (Laughter)
- Child You can think of nothing
- Child But if you are thinking of nothing you are thinking of something. You can't think of nothing. If you are thinking of nothing, you are not thinking.
- Child If you have nothing in you mind you are still thinkng of something.
- Child That's impossible. That's not how it works.
- RF If you were thinking of the word 'nothing' would you be thinking of nothing?
- Child: Yes that would be nothing. If you're thinking of nothing .. it's nothing
- Child I disagree with Jake, because if you think of the word 'nothing' you are still thinking of something.

(After further discussion about the nature of thinking I tried to round off the discussion by seeking through a question a summary and consensus of the views of the students involved)

- RF: What can you say now about the difference between thinking and dreaming?
- Child: You can control your thoughts but you can't control your dreams
- Child: Yeah ... dreams don't always make sense
- Child: In the day your thinking all the time. You have millions of thoughts...but only a few dreams, or no dreams.
- Child: You can't control your dreams, but you can start thoughts by thinking of something.
- Child: Like we're doing now.
- Child: You can't control your dreams.....
- RF: Thank you. I think we'll have to stop now....can anyone think of any other questions about thinking we've not asked?
- Child: Can you think in your Mummy's tummy ...I mean, before you're born?
- RF: That's interesting, thank you. OK .. Can you write down any thoughts you've got about what we discussed, or any questions or ideas you've got ready for another time....?²⁶

In this dialogue the facilitator has tried to model the Socratic method, using elements from both the European and American traditions during a session of philosophy with children, allowing the discussion to tack back and forth between the group, being non-judgemental, intervening with questions on the theme under discussion, and encouraging the children to do a review or 'thinkwrite' at the end of the lesson.

Formal discussions such as this are not the only way in which the Socratic method can contribute to education, Socratic questioning can be used as a teaching strategy in all curricular subjects. But what are Socratic questions?

2. Socratic questioning

There are many different sorts of questions that can be asked of students, but the most common distinction is between open and closed questions²⁷. Research studies show that the questions teachers use most often are closed, factual-type questions²⁸. These are rhetorical questions in the sense that the teacher knows the right answer and is testing recall of knowledge. Open questions are genuine queries where the teacher does not know the answer, and is asking the child. They become Socratic when the question is a genuine invitation to enquiry, for example 'What do you think?'. Socratic questions provide a stimulus for thinking and responding, and Socratic questioning differs from random open-ended questioning in that it follows a pattern, a progression of follow-through questions that probe reasons and assumptions and which take the enquiry further. Some questions, such as 'Why are we here?' may be an ordinary open question or a question that invites philosophical enquiry.

Fig 4 Socratic questioning

Socratic questions	
1.	<p><u>Questions that seek clarification:</u> Can you explain that...? What do you mean by...? Can you give me an example of ...? How does that help...? Does anyone have a question to ask ...?</p>
	<p><i>Explaining</i> <i>Defining</i> <i>Giving examples</i> <i>Supporting</i> <i>Enquiring</i></p>
2.	<p><u>Questions that probe reasons and evidence</u> Why do you think that...? How do we know that...? What are your reasons...? Do you have evidence...? Can you give me an example/counter-example...?</p>
	<p><i>Forming an argument</i> <i>Assumptions</i> <i>Reasons</i> <i>Evidence</i> <i>Counter examples</i></p>
3.	<p><u>Questions that explore alternative views</u> Can you put it another way...? Is there another point of view ...? What if someone were to suggest that...? What would someone who disagreed with you say...? What is the difference between those views/ideas ...?</p>
	<p><i>Re-stating a view</i> <i>Speculation</i> <i>Alternative views</i> <i>Counter argument</i> <i>Distinctions</i></p>
4.	<p><u>Questions that test implications and consequences</u> What follows (or can we work out from) what you say? Does it agree with what was said earlier..? What would be the consequences of that ...? Is there a general rule for that...? How could you test to see if it was true...?</p>
	<p><i>Implications</i> <i>Consistency</i> <i>Consequences</i> <i>Generalising rules</i> <i>Testing for truth</i></p>
5.	<p><u>Questions about the question / discussion</u> Do you have a question about that...? What kind of question is it...? How does what was said/the question help us...? Where have we got to/who can summarise so far...? Are we any closer to answering the question/problem...?</p>
	<p><i>Questioning</i> <i>Analysing</i> <i>Connecting</i> <i>Summarising</i> <i>Coming to conclusions</i></p>

Socrates is said to have called education 'a festival for the mind', and philosophical enquiry is essentially a celebration of ideas. Socratic questions help us to focus on ideas or concepts as the basic ingredients of thinking. All ideas, elicited by questions, are to be viewed as potential sources of truth. Such questions invite us to attend to our familiar everyday experiences (Lawrence's definition of thought as 'wholly attending'), to look further into things, and to explore the wonder and mystery we find there. The questions urge us to 'dig deep', and to think clearly about the concepts we use to structure our thinking about the world.

Socratic questions are the kind that can add rigour to any discussion, whether the lesson is history, art, science or any curriculum subject - and at all levels of education, from kindergarten to college, in school, at home or in the marketplace of life. They help to move discussion away from the unstructured swapping of anecdotes, items of knowledge or unsupported observations to a discussion with purpose and direction. The eventual aim is for the questions to become internalised questions that students ask themselves. Indeed one criteria that can be used to assess the effectiveness of any enquiry is to compare the number of students asking questions compared to the number asked by the teacher. There is no fixed set of questions that are Socratic, but Fig 4 presents a summary list of questions that are open, and Socratic in the sense that they act as invitations to better thinking²⁹.

Socratic education - building a learning and teaching community

At the heart of Socratic education is the belief that we all have an innate capacity for reasoning, and that the development of this capacity is the key to learning and to true understanding. In school, home and marketplace we need thinking time and talking time. Socrates provided a model both as thinker - Socrates would stand for long periods of time buried in thought (Symposium 220c-d), and as a facilitator of thinking through questioning and dialogue. Dialogue provided a rational context, but also a moral context for learning. Moral beliefs like other beliefs need to be founded on rational grounds. Only reasoned knowledge can be trusted, and only knowledge tested in the crucible of reasoned discussion with others. To build a thinking or learning community, at school, home or workplace, means creating opportunities for this kind of reasoned and creative discussion. This in turn builds upon the long tradition of philosophy as a process of enquiry, initiated by Socrates, and being developed world-wide in schools and community groups.³⁰

We no longer believe, as Socrates seems to have done, that all knowledge is innate. The academic tradition can help to provide us with rich realms of knowledge through study - in books, on the computer screen, and by using our own writing to store ideas and develop understanding. Formal education in the academic sense has an important role to play. Despite the fact that we can have access to vast realms of knowledge in libraries and through electronic means, we still need knowledge structures and a basic repertoire of trained skills that traditional academic disciplines can provide. We need both rote learning and open enquiry. We need both the Socratic and the Academic in education. A dynamic learning community is built up from an inheritance of shared knowledge, as well as the practice of creative enquiry to convert knowledge into understanding and help in the battle against misunderstanding.

Socratic education has a vital part to play in developing individual learners and communities of learning. Through Socratic education, with its focus on questioning and on explanation, every learner also becomes a teacher, and plays a part in the continuing quest for understanding and for ways of life that are worth living.

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THEME 2 Part 12

Fisher R. (in press) *Stories for Thinking: a programme for developing thinking and literacy skills.*

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The paper is an extended version of the entry on Stories for Thinking (Fisher, in press) in the 'European Programmes for Teaching Thinking - Inventory and Classification into Categories' (J.H.M Hamers & M. Th. Overtoom, Utrecht University).

The Introduction to Stories for Thinking (Fisher, in press), a resource book for teachers (see below, Part 13), also reproduces material from this paper.

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Stories for Thinking

a programme for developing thinking and literacy skills

Books are not made to be believed, but to be subjected to enquiry. When we consider a book, we must not ask ourselves what it says, but what it means

Umberto Eco The Name of the Rose

Stories help you think 7 year old child

Stories have long been seen as a natural stimulus for discussion, investigation and problem-solving in UK primary schools. The Stories for Thinking programme is aimed at developing the thinking, learning and language skills of primary-aged children through thinking together about stories. The central focus of the programme is on the use of narrative as a stimulus for developing higher order literacy and thinking skills.

The Philosophy in Primary Schools research project on philosophy with children undertaken in London schools in 1993/6 used stories as a focus these three elements of language learning, the teaching of metalinguistic elements for example by introducing young children to the language of discourse, reasoning and argument; the teaching of how to question and process literary and visual information; and the transfer of higher-order thinking processes into curriculum activities. The Stories for Thinking programme is the outcome of this research.

Why stories?

Narrative comprehension is one of the earliest powers to appear in the mind of the young child, and is one of the most widely used ways of organising human experience. The use of stories has long been recognised as a valuable means for stimulating philosophical discussion with young children in the primary classroom (Cather, 1919; Matthews, 1980; Egan, 1988; Lake, 1991; Murrin, 1993; Cam 1995). The power of stories reside in their ability to create possible worlds as objects of intellectual enquiry (Lipman 1980, 1988). Stories liberate us from the here-and-now, they are intellectual constructions but they are also life-like. They are intellectually challenging, but also humanly rewarding.

All the great stories of humanity have the capacity to relate to the concerns and needs of people at different stages of development. They are 'polysemic', that is they have within them layers or levels of meaning and significance which we become aware of as we grow in experience and insight. We can find ourselves returning to them again and again, seeking fresh insight and nourishment as life persuades us to reformulate and rethink those basic philosophical questions about what we know and believe, about right and wrong, about human relationships and the self which are of relevance to people at all ages and stages of life. One reason we relate to stories is that they can be metaphors for our own life. Human life can be regarded as a story, a narrative structured in which everyone has a part (MacIntyre 1984). In existentialist terms the fact of death provides structure to life (Heidegger 1962). To understand the narrative structure of stories, or of human lives, requires more than the exercise of human reason, it requires what Egan (1993) calls 'the other half of the child' namely imagination. When Dewey argued for education through experience, such experience should include the imaginative experience to be gained from stories. But what is a story, and what experience should be gained from stories?

Egan (1988) argues that a defining characteristic of a story is that it is a 'linguistic unit that can ultimately fix the affective meaning of the events that compose it.' In a well-crafted story our affective responses are orchestrated by the events in the narrative. It is this 'affective meaning' that Egan sees as the unique characteristic of a story plot (Egan 1978). One reason why stories have this affective power is that 'stories have this crucial feature, which life and history lack, that they have beginnings and ends and so can fix meanings to events' Egan (1986). Stories are in a sense 'given' in a way that life, with its messiness and incompleteness is not. 'Unlike the complexity of everyday events they (stories) end' (Egan, 1988). What makes them stories is that their ending completes (in a rational sense) or satisfies (in an affective sense) whatever was introduced at the beginning and elaborated in the middle (Kermode 1966). As Kafka said; 'the meaning of life is that it stops'. As the Greeks had it: 'Call no man happy until he is dead.'

An affective response can be seen to be characteristic of story, and of every aesthetic experience. A good story evokes what Pierce called an 'intellectual sympathy, a sense that here is a Feeling that one can comprehend, a reasonable feeling'. Bettelheim said of fairy stories: 'A child's choices are based, not so much on right versus wrong, as who arouses his sympathy, and who his antipathy' (Bettelheim, 1976). For Egan the affective power of stories lies in the binary opposites such as love/hate, life/death, hope/despair, good/bad, true/false embodied in the most powerful of stories, such as traditional myths and fairy tales. These binary opposites act as structural devices, syntactical elements in the underlying grammar of stories and provide reference points for meaning.

Stories are not only powerful in the affective domain, but also provide potentially complex challenges for cognitive processing. Since a story contains many different elements, objects and relationships, which unfold in a specific sequence of events, for a child it can be the most complex object of thought in the child's experience (Schachtel 1993). For a young child to grasp and digest a story requires repeated acts of focal attention and efforts of understanding. The child's assimilation of the story requires a complex labour of attention and thought, and is the product of innumerable acts of focal attention to the story as a whole and its different parts, and to the child's affective responses to the story. For the young child the story is a piece of reality on which the child can rely, which is perhaps why getting the story right and hearing it repeated is so important. Later the child learns that stories can be made, changed and recreated in different forms. This issue of re-telling and re-constructing stories is one element of the Stories for Thinking approach..

Part of the cognitive challenge comes from not only making sense of the narrative elements of the story but also the various possible relations between the story and reality. For the child a story is at first a strange country in which exploration and new discoveries are always possible. A rich story is 'polysemic' (Barnes) in the sense that there may be many layers to explore, and renewed acquaintance may reveal new aspects and deeper understandings, especially if the story is revisited in the company of an experienced mediator. The Community of Enquiry approach outlined in the programme provides just such a context for mediating meaning from stories and narrative texts.

The fantasy element of stories allows children to reflect more clearly on real experiences through powerful imaginary experience. Donaldson (1978) observes that there exists 'a fundamental human urge to make sense of the world and bring it under deliberate control'. She argues that this urge for children to make meaning is best served in contexts not totally 'disembedded' from their world of experience. Stories, when comprehensible to children, have the advantage of being embedded in human concerns such as characters, events and binary themes, and yet offer the child the chance to 'decentre' from the immediacy of their personal lives. A story can be like a clouded mirror, a glass through which darkly children can see characters acting out aspects of their own lives.

Egan (1988) suggests a way in to the assessment of stories as potential vehicles for philosophical discussion. Egan advocates that teachers identify the binary opposites within a teaching topic. One way to identify what is important in a story is to find the binary opposites that are embodied in the story, for example life/death, good/evil, hope/despair etc. These can then become a focus for discussion, for generalisation from the concrete and particular elements of the story (and of our lives), to the important questions and concepts that matter to us all. These binary opposites may relate to matters of personal concern such as love/hate, friends/enemies, right/wrong; or more philosophical issues such as what is real/not real, the nature of life/death, and what the origins are of differences in the world. The Stories for Thinking programme aims to identify the binary philosophical themes in a range of stories for discussion with children. Before looking at what stories to use, we need to look more closely at how philosophical enquiry links narrative to argument, and how children's critical reading and questioning can be fostered in a community of enquiry.

Stories for Thinking

The first book in the programme entitled 'Stories for Thinking' (Fisher 1996a) offers a collection of multi-cultural stories for children of 7 - 11 years to enjoy and to think about. While the teacher will be able to find many other examples of stories to discuss with children, these traditional stories offer a rich source of themes for thinking and discussion. This

introduction explores some of the features that make stories problematical and offers practical advice on ways to develop children's response to a wide range of story texts and narratives.

The other focus of this book is on developing thinking. Each story is followed by a discussion plan of questions to challenge and extend children's thinking about the story. There is also a discussion plan that focuses on a major theme from the story, and raises questions on key issues for discussion such as the nature of truth, goodness, fairness and friendship. Follow-up activities are suggested to encourage children to expand their understanding of concepts drawn from the stories. This introduction suggests ways to lead a discussion and how a community of enquiry can be created in the classroom. It shows how to introduce philosophy for children, using philosophical discussion to help children become more confident and effective in their thinking.

The stories and discussion plans can be used in a variety of ways, for example as a stimulus for thinking with:

- * individual children
- * children working in pairs
- * small groups
- * whole classes
- * larger groups of children, such as a school assembly

After each story and discussion plan some further activities are suggested to help develop concepts and deepen the children's understanding.

Stories for Thinking is the first of a range of resources to come from the Philosophy in Primary Schools research project undertaken in London schools by the author. Each story has been the basis of textual and philosophical discussion in a primary classroom, and has been included after successful use by primary teachers and their children. The quotes from children included in the introduction are drawn from this project. Readers are invited to respond to the author with their own experiences of leading discussions using these or other stimulus materials, and with the responses of their children.

The stories

'A story is something that might happen to you' - Anne, aged seven

The story section contains thirty stories which may be read for their own sake by the teacher or child (or groups of children), or used to illustrate a theme for thinking and discussion. Included are stories from a range of countries and cultures including folktales from Africa, China, Europe, India and the West Indies. The stories provide an ideal context for developing speaking, listening, and response to literature. Presenters are encouraged to adapt or extend the stories as they think fit, remembering the words of Rudyard Kipling:

*'There are nine and sixty ways of constructing tribal lays,
And-every-single-one-of-them-is-right!'*

In every language, in every part of the world story is the fundamental grammar of thought and communication. It is through telling stories that we find out what happened to whom and why. By telling stories we not only discover about ourselves and the world, we also learn how to change and create ourselves and the world. Through stories, whether they are personal narratives or the telling of traditional or contemporary stories we are able to expand our thinking as well as to learn about the structure, function and purposes of language. One reason why traditional stories have this affective power is that 'stories have this crucial feature, which life and history lack, that they have beginnings and ends and so can fix meanings to events' Egan (1986). Stories are in a sense 'given' in a way that life, with its messiness and incompleteness is not. We live in a mosaic of disconnected bits of experience. 'Unlike the complexity of everyday events stories have a completeness and an ending'. What makes them stories is that their ending completes (in a rational sense) or satisfies (in an affective sense) whatever was introduced at the beginning and elaborated in the middle.

A story can empower us as learners. In listening to stories children internalise the features of narrative. They are also invited to respond to powerful ideas and emotions. Stories for

Thinking provides opportunities for children both to internalise and reflect on stories from a range of cultures and traditions.

Using stories for teaching thinking

A teacher was reading Winnie the Pooh to her class and reached the point where Piglet's grandfather is said to have two names 'in case he lost one'. The teacher paused and asked 'Can you lose a name?' There was a pause for thought and a shaking of heads. Suddenly a hand went up, 'You could if you forgot it!'

(Fisher, 1987 p 42)

Stories for Thinking: what they provide

Stories for Thinking can be seen as a means of providing:

- a love of literature through exposure to familiar story forms
- a context for critical thinking and discussion on issues of importance
- a community of shared enquiry and experience
- an awareness of our multicultural heritage of stories and books
- a stimulus to imagination, to verbal and visual creativity
- a contribution to knowledge about language, its forms and uses
- an opportunity to practise active listening and speaking skills

One of the chief benefits of using story a stimulus for thinking in the classroom is that a good story arouses the interest and involvement of the child. For Whitehead (in *Aims of Education*) this was an essential first stage in what he argued should be the 'Cycle of Learning' whose stages he identified as follows:

Stage 1: *Romance* - involving arousal of interest and learner involvement

Stage 2: *Precision* - where attention is given to the details of what is being learnt

Stage 3: *Generalisation* - where what is learned is applied and used

What stories for thinking should provide for young children is *romance*, an engagement of the learner in a narrative context, a motivation to be involved and to find out more. In stories there is an important link between memory, emotion and imagination. If a story is worthy then the children will be emotionally committed to it. If children are affected by the story-line their engagement will ensure a pathway to accessing its content, and its potential for thinking and learning.

The fantasy element of stories allows children to reflect more clearly on real experiences through powerful imaginary experience. Donaldson (1978) observes that there exists 'a fundamental human urge to make sense of the world and bring it under deliberate control'. She argues that this urge for children to make meaning is best served in contexts not totally 'disembedded' from their world of experience. Stories, when comprehensible to children, have the advantage of being embedded in human concerns such as characters, events and experiences, and yet offer the child the chance to 'decentre' from the immediacy of their own personal lives. They become able to look at themselves through looking at and thinking about others. The processes through which this is achieved can be summed up as:

- * *questioning the narrative*, interrogating the narrative text or story
- * *interpreting the narrative*, making meaning, giving reasons for judgements about the story
- * *discussing issues arising from the narrative*, finding answers to questions that have arisen

Questioning the narrative

According to Eisner (1985) all learning requires the translation of human 'imagination into some public, stable form, something that can be shared with others.' Stories and narrative texts are human constructions. What makes narrative problematical is that unlike logical or scientific constructions which can be tested against standards of empirical verification or logical necessity, narrative constructions can only achieve 'verisimilitude' (Bruner 1986, 1991). Because stories and texts are human constructions they require an act of translation, of critical reading and questioning if they are to be made meaningful by the hearer or reader. The meaning of a story is not transparent, it must be re-constructed in the mind. There are several elements to narrative constructions that are open to interrogation.

An enquiry into a story progresses, like the application of thought processes to any body of material or experience through the formulation of questions. It is questions that focus attention on, probe and establish the significance of things, and through which one becomes not simply a passive onlooker but a witness able to report on experience. Kieckgaard (1967), writing in 1837, argued that the procedure for story-telling to children should 'as much as possible, be Socratic, one should arouse in children a desire to ask questions.' But what kinds of questions?

Van der Meij (1993) identifies four sorts of questions that can be used to interrogate a text :

1. text-explicit questions - where features of the text are explicitly questioned
2. text-implicit questions - questioning the hidden meanings, requiring inferences to be drawn
3. opinion questions - where opinions or feelings about the text are being questioned
4. experiential questions - where readers question their own or other's experiences

These questions can be related to the categories suggested by Barnes et al (1990) of different forms of questions asked in class, namely factual ('What?' questions), reasoning ('How?' and 'Why?' questions), 'open' questions not calling for reasoning, and social questions relating to managerial issues like control ('Won't you?') or appeal ('Aren't we?') - as follows:

Factual (naming and information) questions	=	text-explicit questions
Reasoning questions	=	text-implicit questions
Open questions (not calling for reasoning)	=	opinion or experiential questions

Barnes et al (1990) observed a predominance of factual over reasoning questions in English and other lessons (History, RE and Maths). Only in Science did they find reasoning questions predominant. Van der Meij (1993) found that most questions (60%) about texts used in classrooms tend to be text-explicit (factual). As Mitchell (1992) notes factual questions are often used as an opening for reasoning, and woven into a longer process of reasoning and argumentation. Since every utterance is sequentially embedded within a context, a context which includes previous utterances and subsequent utterances it follows that a question can only be fully understood within extended dialogue. This accounts for the discrepancy Barnes (1990) and researchers within his project found between the linguistic structure of utterances such as questions, and the function they serve in an extended piece of dialogue

Bakhtin (1981) makes a distinction between 'an utterance's neutral signification' and its 'actual meaning'. In dialogue actual meaning for the listener is created in their active understanding by means of the reasons, connections and inferences drawn from the utterance. Actual meaning is not present in the utterance, it is a potential to be explicated by the minds that read or hear the words. Actual meaning can only be understood 'against a background of other concrete utterances on the same theme, a background made up of contradictory opinions, points of view and value judgements' (Bakhtin 1981). To fully understand the meaning relies on an understanding of the context in which the utterance was made. In a continuous exchange aspects of the dialogue are contained within each utterance. A closed question can for example serve the function of recalling a child's wandering attention back to the discussion. A student may, as Mitchell (1992) observes, in supplying a factually correct answer within a particular context a student may be asking herself, 'Why am I being asked that question?' An open question is not identifiable by its linguistic structure alone but needs to be checked against subsequent utterances and the epistemic tenor of the dialogue within which the exchange is framed. In looking at examples of interrogating text through dialogue

we need therefore not to look at isolated exchanges but more at what I shall call 'epistemic episodes' within the dialogue.

What is crucial in determining the use of function of a question is the response it evokes. What philosophical enquiry aims to achieve is a text-implicit investigation through the use of discussion, that is a pattern of responses which provide evidence of shared enquiry and reasoning. The overall sequence of this shared enquiry however does not rely solely on open or reasoning questions. A variety of questioning forms include rhetorical questions, such as: 'Why is that character saying that?', and statements can have an implicit questioning function during a discussion. A statement that proposes a hypothesis, such as: 'Every rule they say has an exception', may be an invitation to a judgement eg 'Can you think of an exception?'

Philosophy begins in wonder, and in asking questions. One of the key elements to cognitive development, and to the development of a wondering and enquiring mind, is that of questioning. A young (or old) mind needs to know that a relevant question does not arise from a lack of thinking, but is an invitation to learn, an opportunity to entertain conjectures and to make connections. It also reflects the understanding that learning is not easy, and understanding is not achieved without effort. Why is it that in many learning situations it is the teachers who ask the questions, and the learners who should have most to ask remain silent? It may be because children lack the ability to formulate questions, which is further hampered by a lack of authority, of sanctioned knowledge. My question may be silly or inappropriate, so it is better if I wait to see if it is articulated by another. We need therefore to offer children discourse practices which legitimate and facilitate their practice in questioning, and we need also to find a pedagogy which will provide models of enquiry that students can internalise and apply for themselves.

Because stories are human constructions they require an act of translation, of critical listening or reading if they are to be made meaningful by the hearer or reader. The meaning of a story must be re-constructed in the mind. There are several elements to narrative constructions that are open to reflection, interpretation and discussion.

The following are some of the problematic features of a story:

1. Temporal order

'I wonder what happened before the beginning of the story?' - Christopher, aged nine

All stories exhibit what Bruner (1991) calls 'narrative diachronicity'. They all express a unique pattern of events over time. Sometimes these events are chronological, but they occur as Ricouer (1988) notes in 'human time' rather than in 'clock time', that is time made significant by the human meaning of events which it encompasses. There are many conventions in which temporal order can be expressed, for example 'Once upon a time...', flashbacks, flash-forwards and so on. To ask children to reconstruct the temporal events of a story is to do more than merely to exercise their memory, it is to provide the challenging task of narrative reconstruction and meaning-making. And as anyone who has asked a group of children to do this with a familiar story provide a stimulus for much argument and debate. All stories express a unique pattern of events over time. Sometimes these events are chronological, but they occur in 'human time' rather than in 'clock time', that is time made significant by the human meaning of events in the plot.

Questions to help children comprehend the temporal order of a story include:

'Who remembers what happened in the story?'

'What happened in the beginning/middle/end?'

'What does 'Once upon a time' mean?'

2. Particular events

'Why do things happen the way they do?' - Dawn, aged eight

Stories are governed by what Bruner calls the principle of 'particularity' (op cit), that is they take as their ostensive reference particular happenings. These particular events fall into patterns that become story types and genre. Each particular event, and groups or patterns of

events are open to interpretation. The usual locus of the drama of a story is trouble or conflict of some kind. And of particular relevance in any story are precipitating events, which cause as it were an imbalance or disharmony, and where the problematic nature of life becomes apparent (Fisher 1987). It is in the comprehending of particular problems through interpretation that the educative power of stories lay, and not simply an understanding of what Kermode calls the 'consoling plot'.

The events in a story constitute the genre, that is the loose but conventional way that generic aspects of the human situation are represented in narrative. The genre of the text may be open to question, indeed any text may relate to a number of genres. A genre is not just a property of the text but is a way of interpreting and coming to understand the text. It follows that there can be different versions of any text or event. Indeed there may be competing versions of a story or any event within a narrative, and the negotiation between different narrative versions is essential in social understanding and in understanding the nature of fiction. This process of developing understanding about the nature of narrative is gradual, but it can be helped by reflecting on and interpreting the particular events that make up stories.

The following questions can help encourage interpretation of particular events in stories:

- 'What kind of event/episode/story is it?'
- 'Why did this event happen/what caused it?'
- 'What exactly happened?'
- 'What could have happened?'
- 'What should have happened?'
- 'What could/should happen next?'

3. Intentions

'Why did she say what she said?' - Rajiv, aged nine

Stories are about people (or animals, robots, magical beings etc.) with intentional states such as beliefs, desires, theories, values and so on. Problems arise because it is not always clear what a given character's intentional states are, and even when they are clear the intentional states do not necessarily determine events. Because the links between intentions and actions are loose, narrative accounts do not offer complete causal explanations. Human intentionality presupposes some element of choice or freedom to choose. We can only interpret by reflecting from our own experience how a character feels or what s/he perceives in a given situation and the reasons for things happening as they do in the story. In a sense every outer adventure has an inner adventure, which is represented in the hidden mental processes of the characters.

The importance of such interpretative dialogue is relevant not only to knowledge about texts but also to the child's understanding of other minds. It therefore has a metacognitive function, as well as a philosophical function to aid thinking about thinking.

Such interpretative discussion could be informed by questions such as:

- 'What does x believe...?'
- 'What does x want?'
- 'What does x think..?'
- 'What does x want others to think...?'
- 'What reasons would x give?'
- 'What does x think that y should do ...?'
- 'Why does x think that...?'
- 'What does x hope will happen...?'

4. Meanings

'What does the story mean?' - Holly, aged seven

A successful story is a whole, it has coherence, and like any construct can be studied as a whole. Bruner (1991) uses the term 'hermeneutic composability' to refer to the meaning or function of the text as a whole. Unfortunately the word 'hermeneutic' implies that a story or

text is a construct through which somebody is trying to express a meaning, or from which some 'message' can be extracted. However there is no method of assuring the 'truth' of a meaning assigned to a story, or any way that logically or empirically the constituent elements of a story can be said to compose a meaning. There is as Bruner says a textual interdependence in any story between the whole and the parts both in construction and comprehension. The more complex a text in terms of constituent elements the more opportunity there is for textual or referential ambiguity. This is not so with all stories. Barthes (1985) contrasts 'readerly' texts which are part of a well-known and well-rehearsed canon, such as stock kinds of folk-tale eg 'tall stories', and 'writerly' ones that challenge the reader to interpret ambiguous elements in trying to make meaning of the narrative. However there is in the most readerly text a meta-discourse relating to the intentions of the author - why the story is told, and the contextual issue of politico-social conditions - background knowledge of where and when the story was created. Every story inhabits a world. How is this world like or unlike our world?

Other questions to help children interpret the meanings of a story might include:

- 'What kind of story is it?'
- 'Who do you think wrote/told it first?'
- 'Where does the story come from?'
- 'Can you think of a/another title to the story?'
- 'What would you say the story was about?'
- 'Is there anything puzzling about the story?'
- 'What does this story tell us...?'
- 'What does the author/story not tell us?'
- 'What is the message (or moral) of the story?'
- 'In what ways is it like/unlike other stories?'

5. The telling

'Who is telling the story?' - Asim, aged eight

Another element of narrative analysis is the distinction between the narrative plot, and its mode of telling (Labov & Waletzky 1967). A genre is not only a form of plot, but is also a style of telling. In a sense there are only a basic number of plots, but infinite ways in which they can be told. It has been argued that 'the function of inventive narrative is not so much to 'fabulate' new plots as to render previously familiar ones uncertain or problematical' (Bruner 1991). The storyteller or writer's task is in a sense to make the ordinary strange, to challenge the reader into an interpretative response. Any story is heavily influenced by narrative traditions, but good stories exhibit creative innovation, goes beyond conventional scripts, leading people to see things in fresh ways. This can be in terms of the twists of a plot, or in the style of telling. This involves evaluation not only of the plot - what happened in the story, also why it was worth telling and how it was told. Some accounts are poorly told, they are not story-like and are said to be 'pointless'. Others involve innovation of content or style - a breach of expectations - to create something that is unique and rewarding.

Questions to aid interpretation of the telling might include:

- 'Was there anything special about the story?'
- 'Was it a well-told story?'
- 'Have you heard other stories like this?'
- 'What was different about this story?'
- 'Could you tell this story in a different way?'
- 'How would you change the characters or events?'
- 'If you told the story differently would it be the same story?'

Stories for Thinking lessons have three kinds of aims:

- * curriculum aims - to help develop skills in English especially in developing response to a range of reading, and in developing speaking and listening skills
- * cognitive aims - in developing thinking, questioning, imagination and verbal reasoning through textual and philosophical discussion

- * moral and social aims - to help children develop confidence in their capacity to think for themselves, encourage an understanding and a caring attitude towards others

Reading and listening to stories creates a mental space for thinking. But it is the quality of thinking that should concern us. Likewise all good fictions stimulate mental acts such as supposing, guessing and judging. If we restrict children to the inner voice of their own private judgements then we limit the opportunities for mental response that good texts offer. Reading is not necessarily over once the text is finished, but can continue through reflection, interpretation and discussion. Text talk should aim to deepen understanding both of what is read, and of the world. Discussion in a community of enquiry can help make reading a social event.

Any story or book that children read can become a story for thinking if a teacher or reading partner follows the story up with questions and themes for discussion. In this book each story is linked to a key theme and examples of questions for discussion. It is hoped that these will not only be useful in themselves but offer models for the way any reading with children can be enriched by discussion. Many of the best questions may however come from the children themselves.

The children in this class also had a personal thinking journal in which they could raise and explore further questions, or questions they did not want to raise in open discussion in the lesson. These journals were private, but could be shared with the teacher (or others) who would make a written response. Philosophy for Children lessons provided here an opportunity for questioning, and interrogating texts as a prelude for discussion and writing. This questioning and exploration of underlying assumptions in oral form may be an important prelude to developing thinking and reasoning. Berrill (1990) identifies a relationship between such 'oral groundwork' and subsequent written work, suggesting that the process of reasoning is not necessarily concluded or resolved in classroom dialogue. By interrogating and discussing a text in a community of enquiry children learn that there a text or story often contains many more questions or problems than they first thought, and that questions (and answers) beget further questions in a dynamic and potentially endless process of enquiry. We have seen that through offering children discourse practices which legitimate and facilitate their practice in questioning, they can learn to question stories and texts. But the question often raised by teachers is which story or text to use? Are certain stories or kinds of story of richer potential for enquiry?

What stories to use? - story materials and texts suitable for philosophical enquiry

The following kinds of stories are being used in this research project into philosophy with young children in west London schools:

Stories for Thinking - what stories to use?

The following are some of the kinds of stories can be used to develop thinking and discussion in primary schools :

- traditional stories such as the thirty stories to be found in *Stories for Thinking*
- children's fiction such as *Alice in Wonderland*, *Wizard of Oz*, *Little Prince*, *Iron Man* etc.
- picture books such as those identified by Murrin (1992), Sprod (1992)
- philosophical stories for children, such as Lipman's Philosophy for Children programme
- poetry such *Poems for Thinking*, in this series, by Robert Fisher (in press)
- pictures such as *Pictures for Thinking* by Robert Fisher (in press)
- curriculum-based narrative such as stories from history, linked to school topics

- artefacts and objects - any object or artefact can be a focus for narrative enquiry
- drama, role play and first-hand experience, drama, role play and first-hand experience can provide opportunities for thoughtful discussion
- music also provides opportunities for thinking, see *Music for Thinking* (in press)
- TV and video provide examples of stories for discussion and critical media study
- factual narrative - non-fiction forms of narrative can be of philosophical interest such as news reports or 'Unexplained Mysteries'

Inviting children's questions

'Philosophy lessons are good because you can think of your own questions, and try to answer other people's questions' - Sundu, aged ten

Normally a Story for Thinking lesson begins with the reading of a story. Ideally the children should have access to the text.. If they are ready for it it is a good idea to have them reading aloud to the class, in turn, either a paragraph each, or taking parts if there is a dialogue. Children who do not want, or feel they cannot, take part in reading aloud should be given the option of saying 'pass' to miss their turn.

Once the story has been read or retold invite the children to think about it. Ask if they found anything puzzling or peculiar in the story. Is there something in the story that made them think? Is there a question anyone would like to ask?

As questions arise write them on the board, numbering them as you go, and adding the child's name to their question to acknowledge their contribution. Sometimes children may prefer to make a statement rather than a question. If the child cannot turn it into a question record it as a statement which may need to be discussed. The following were questions raised by a Year 3 and 4 class (7-9 year olds) having their first Story for Thinking session., after reading the story of Gelert. The first contribution was a comment:

- The story doesn't sound too good if you're a vegetarian. (Luke)
- Why is the story so miserable? (Robert)
- Why is the story so bloodthirsty? (Kayleigh)
- How did the baby fall out of its cradle? (Kevin)
- Why didn't Prince Llewellyn look around the room for the baby? (Francis)
- Why didn't the baby wake up? (Eleanor)
- Why was the story made up? (Luke)
- What is the point of the story? (Sara)
- Why did the prince kill the dog before looking for the baby? (Alex)
- Why are there different versions of the same story? (Daniel)
- Where were they in the castle? (Harpreet)
- Why did the prince jump to conclusions? (Michael)
- Why did the prince have to go hunting? (Darrenjit)
- What was he hunting for? (Harpreet)
- How did the wolf get inside the castle? (Ricky and Brett)
- Why did the prince kill the dog if it was his favourite animal? (Robert)
- Can you bring people (or dogs) back from the dead? (David)

The questions are fairly typical for this age group. On this occasion about half the class asked a question, some children asking more than one. The teacher might then have asked the children to choose eg by voting, which question they wished to discuss. On this occasion the teacher chose what she thought was the most interesting and philosophical of the questions, Luke's question: 'Why was the story made up?' She began by asking Luke to explain why he asked this question. As the discussion progressed the children discussed the difference between stories, myths and legends, they talked of people who made up stories and what

makes a good story, and how you might find out whether a story is true. Towards the end of the 45 minute session the children chose Michael's question: 'Why did the prince jump to conclusions'. Michael explained why the question puzzled him, and the class began debating the motivation behind the actions of the central character. By the end of the lesson there were still many more questions to discuss. These could be displayed in the class for another time, or be the subject of the children's writing in their Thinking Books.

As the children get more experienced in the process they will ask more questions, and their insights in discussion will delight and surprise you. The following are examples of the 26 questions raised by a class of Year 5 and 6 children (9-11 years) after hearing the story of The Willow Pattern. Almost every child in this class had a question and the teacher stopped writing questions when he ran out of board space!

Why is the daughter so important to the father? (Gaurav)
 Why was the Willow Tree so important. What did it stand for? (Faizal)
 If the father loved the daughter so much why did he make her unhappy? (Chetan)
 Could someone really change into a bird? (Ben and Bobby)
 Shouldn't you be allowed to marry who you want to? (Stacey)
 Is it a true story or not? (Ronald)
 Who were the gods, and what did they look like?(Anil)

Any one of these questions, and many others suggested by the children, are likely to prove fruitful for discussion. In the early stages it may be better for the teacher to choose a promising question from the board for discussion. From the above lists of children's questions which would you choose as a starting point for discussion?

Stories for Thinking - what is a typical lesson?

A typical Story for Thinking session might take the following format:
Setting: children sit in a circle on chairs, with the teacher part of the circle

1. Introduction to the session.

One way to introduce a session might be to say: 'When you read or hear a story do you ever have thoughts or questions that come into your head? Do you think other people have the same thoughts? Today we are going to hear a story and find out if you have any thoughts or questions about it'.

2. Story-telling

The chosen story is read or told by the teacher, or read by children in turn, so they get an idea of its flow and main ideas. The children may be asked to re-tell the story, or the teacher might map the elements of the story for all to see, with help from the group.

3. Thinking time

The class are asked to think about what they find interesting or puzzling about the story, and think of any question they might want to ask about the story.

4. Question time

After thinking time comments and questions are invited from children and are written on a board, with the child's name written after their contribution.

5. Discussion time

Children are invited to say something about a question or comment that interests them, leading to a discussion of the ideas involved. Teachers may also use ready prepared discussion plans and leading questions that focus on key ideas of the story. At the end of the session children might review the discussion, and/or write or draw their thoughts in a journal.

(See also *Games for Thinking* by Robert Fisher in this series)

Discussion plans

'I like discussing questions because it gives me a chance to share my thoughts with others' - Danielle, aged nine

Each story includes two discussion plans of questions that can be used to focus children's attention on:

1. Thinking about the story - to explore children's understanding of the narrative features of the story, and to encourage critical and creative thinking about the story
2. Thinking about a key theme of the story - to explore children's understanding and to encourage critical and creative thinking about the theme

Activities are suggested after each discussion plan to encourage further creative thinking about the story and key theme. These discussion plans and activities are supplied as suggestions only. They are not meant to be followed slavishly. They are there as a guide to some of the questions that can be asked. You, or your children, may come up with better or more interesting questions. Each story contains a number of themes, some of these are cross-referenced at the end of each section, and you may wish to create questions and activities on other themes in the story. Suggestions for other stories related to the themes are given, and you may wish to use other narrative material to explore a chosen theme. Stories for Thinking is a flexible resource to be adapted and developed to suit your needs and your children.

A story discussion session may last from thirty minutes to over an hour, although teachers often find that two shorter sessions are better than one longer one. This allows for a session of follow-up activities to build on the issues and elements of the story or discussion. Not all stories are ideal as 'stories for thinking'. Many stories should be read for sheer pleasure in words and pictures, and for many other reasons. But books are a primary mode of transmission of ideas in our culture, and part of a child's experience of stories should be for discussing these ideas with the help of a teacher. The following are some questions about stories that make a possible framework for discussion with children:

Discussion plan: Stories

Do you ever tell stories? Can you give an example?

Why did you tell the story?

Do you like listening to stories? Why?

Why do people write or tell stories?

Are there different kinds of story? Can you give examples?

Could a world exist where there were no stories?

When you read or hear a story can you tell if it is true or not? How?

What is the difference between fact and fiction? Can you give examples?

Does it matter if a story is fact or fiction (true or not)? Why? Can you give examples?

What makes a good story?

(Further work on this theme can be found in Stories for Thinking)

Leading a discussion

'I think the discussion is good when it makes you think of good reasons, and it gives you a turn to think of good ideas' - Gabby, aged eight

Stories for Thinking aims to create a situation where children learn:

- * how to discuss questions, problems and issues together in a Community of Enquiry
- * how to be clear in their thinking and reasoning
- * how to listen to and respect each other

Thinking is of course a holistic activity, but it includes a number of important elements, skills and attitudes. These include:

- * questioning - asking good questions to provide a focus for enquiry
- * reasoning - being logical (or scientific) to support argument and judgements
- * defining - clarifying concepts through making connections, distinctions and comparisons
- * speculating - generating ideas and alternative views through imaginative thinking
- * testing for truth - gathering information, judging evidence, examples and counter examples
- * expanding on ideas - sustaining and extending lines of thought and argument
- * summarising - abstracting key points or general rules from a number of ideas or instances

A number of questions have been found useful in the classroom for injecting intellectual rigour into a discussion with young children. They aim to move it away from children simply giving an answer, from anecdotal comment and unsupported observations to a style of discussion characterised by the giving of reasons and the formulation of argument. They try to encourage children to take responsibility for their comments and to think about what they are saying. The hope is that such questions in time become internalised and come to be asked by the children themselves. Examples of questions found useful in discussions include:

Stories for Thinking: discussion questions	
Questions	Cognitive function of questions
<ul style="list-style-type: none"> • What do you think..... (giving child's name)? What is your view/opinion/idea about this? 	<i>Focusing attention</i>
<ul style="list-style-type: none"> • Why do you say that? Can you give me a reason? 	<i>Reasoning</i>
<ul style="list-style-type: none"> • What do you mean by? Can anyone explain that to us? 	<i>Defining/analysing/clarifying</i>
<ul style="list-style-type: none"> • Has anyone got another thought//idea/example? Who else can say something about it? 	<i>Generating alternative views</i>
<ul style="list-style-type: none"> • How could we tell if it was true? How do you/we know? 	<i>Testing for truth</i>
<ul style="list-style-type: none"> • Who agrees/disagrees with...(child's name). Can you say who/what you agree or disagree with? 	<i>Why? Sustaining dialogue/argument</i>
<ul style="list-style-type: none"> • Who can remember what we have said? What are the ideas/arguments we have said? 	<i>Summarising</i>

Building a community of enquiry

'I like talking philosophy in class because you can choose what to talk about' - Charlene, aged ten

Stories for thinking are resources that can help create a community of enquiry. A community of enquiry is a group or class engaged in an exploration of ideas through discussion. It is one of the most effective methods for developing thinking since it benefits from the 'distributed intelligence' of the whole group. It aims to create

- * *a rational structure* for developing ideas, sharing meanings and enquiring after truth.
- * *a moral structure* for it involves the practice of co-operation, of care and respect for others and embodies the principles of democracy in action.

The following are some ways of achieving a community of enquiry in the classroom:

1. Community setting

The group should ideally be sitting in such a way that all can see each other and the teacher. A circle is ideal, if the group or class is small enough. The children themselves may have views on the best community setting for discussion. Ensure before you start that everyone is comfortable in the setting. In past times stories on the radio would start: 'Are you sitting comfortably ... then I'll begin.'

2. Agreed rules

Agreed rules, whether implicit or explicit, are essential for productive discussion. One way is to write and have on display about five simple rules for discussion. Key rules might include 'Only one person speaks at a time' (OOPSAT), 'Everyone listens to the speaker' and 'No put-downs'. It can be helpful if children themselves are on the lookout for anyone who may be breaking the rules - including the teacher!

Another approach is to ask the children, in pairs or small groups to devise their own rules. The following were some rules agreed by a group of ten year olds:

- * Give everyone a turn at speaking
- * Don't interrupt when someone is talking
- * Give support and help them add things
- * Don't say anything mean, stupid or unpleasant
- * If people don't want to say anything they don't have to
- * Don't laugh unkindly at something someone has said
- * Think before you ask a question

3. Time to think

There has been much research into the importance of wait-time or thinking time in encouraging thoughtful responses from children. 'Let's stop and think about ...' is a useful reminder, and emphasises the importance of what we are doing or listening to. Sometimes asking children to close their eyes to visualise or rehearse what they want to say can be helpful. A short meditation in absolute silence can also help. Time to think is especially relevant:

- * after hearing or reading the story - 'I want you to think about the story
- * after someone has made an interesting comment - 'I want you to think about what x said'
- * at the end of the session - 'I want you to think about what we've all heard and said ..'

The strategy of 'think-pair-share' can help create a space for thinking. Allow individual thinking time on a problem or issue, then discussion with a partner, and then share in a class discussion. Time to think at the end of the session can be a useful way to review outcomes, and reflect on the process. Some teachers give children a Thinking Book (journal, notebook or diary) for them to record their thoughts, feelings and ideas about the session, in words and pictures. This can either be a private journal or one to share with teacher or others.

In the early life of a community of enquiry the teacher may need to take a directive approach to the discussion without dominating the discussion. Whilst acknowledging everyone's contribution try to use your own opinions sparingly. Withhold judgement by responding to student answers in a non-evaluative fashion. Call on others to respond, for example by saying:

Who agrees or disagrees with what x has said?
Who can summarise what x has said?
Who would like to respond?

The teacher's role in a community of enquiry is a complex one, and no wonder, for getting children involved in a genuine discussion about matters of interest and importance is one of the most challenging tasks of teaching. If we want children to think for themselves we should

involve them in thinking together. A community entails cooperative activity, and if we want our children to grow into cooperative, responsive and thoughtful citizens then it is an activity of the highest importance.

Stories for discussion - building the community

Ways of developing the community include trying to get the children to:

- talk to each other, not always through you
- face the speaker they are responding to
- connect what they say with someone's previous comment eg 'I agree/disagree with..'
- give reasons for what they say
- actively listen to everyone who speaks

Philosophy for children

'Philosophical questions can come out of anything' - Laura, aged ten

Children and their teacher share some reading and listening. The children take some thinking time to devise their own questions and to discuss them. The group meets regularly. The questions get deeper and more thoughtful. The pupils' discussions get more disciplined and focused, and yet also more imaginative. This describes how a community of philosophical enquiry develops.

Philosophical enquiry aims to help children develop the skills and dispositions that will enable them to play their full part in a pluralistic society. It can boost children's self-esteem and intellectual confidence. It aims to create a caring classroom situation where children learn to:

- * explore issues of personal concern such as love, friendship, death, bullying, and fairness, and more general philosophical issues such as personal identity, change, truth and time
- * develop their own views, explore and challenge the views of others
- * be clear in their thinking, making thoughtful judgements based on reasons
- * listen to and respect each other
- * experience quiet moments of thinking and reflection

Philosophical enquiry initiates children into public discussion about meanings and values. It encourages them to think what it means to be reasonable and to make moral judgements. Such discussions are not just 'talking shops' but help to create a moral culture, a way of thinking and acting together that cultivates virtues of conduct such as respect for others, sincerity and open-mindedness. Through philosophical enquiry children are encouraged to find their own path to meaning via discussion with others.

Philosophical enquiry can take place in many contexts and with students of all ages. In school philosophy sessions can contribute to personal and social education programmes as well as developing language skills. Research suggests that children's reading and comprehension skills can be improved by philosophical enquiry as part of an overall approach to language and literacy. Research into philosophy for children is being conducted in more than thirty countries, and there are networks of teachers in this country developing projects and new materials. *Stories for Thinking* is the outcome of one such a project - the Philosophy in Primary Schools project which was undertaken in west London schools. For more information on Philosophy for Children see the resources listed below.

What do teachers think are the benefits of Stories for Thinking? Benefits identified by teachers include the following:

'It is good training for children in raising questions, not only English but science relies on children generating questions - a skill they find hard.'

'Children have learnt to respect others, and have developed the confidence to put

forward their own opinions and beliefs'.

'Answering questions by putting forward theories and hypotheses is not only intellectually stimulating, it is also psychologically 'safe' for them, when they do it in a community of enquiry'.

What do children think they learn from philosophy? Responses of course will vary, from the child who said - 'Philosophy makes my brains ache', to the child who responded 'I think philosophy makes you think more because it gives you time to think'. It is this time to think that we all need, as adults and as young children.

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THEME 2 Part 13

**Fisher R. (in press) Stories for Thinking, a resource book for teachers.
Oxford: Nash Pollock, 120pp**

Publication Part 12 (above) provides an introduction to this book.

The book is the first in a series of resource materials that derive from the Philosophy in Primary Schools research project and which are intended as contributions to curriculum development in philosophy for children, and the application of philosophical discussion across the curriculum.

Included here are illustrative extracts from this resource book of stories, discussion plans and suggestions for further activities to provide teachers with curriculum materials, and an introduction to a methodology, for implementing philosophy for children in primary and secondary classrooms.

STORIES FOR THINKING

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1. Anger

The story of Gelert

Many years ago there was a prince of Wales called Llewelyn. He loved hunting and kept a fine pack of hunting dogs. One of these he loved more than all the others, and the name of this dog was Gelert. Not only was Gelert a fine hunting dog, he was also a good-natured animal, and was loved by Llewelyn and his family.

One day the prince decided to go hunting. He knew that wolves had been seen in the forest near the castle. He was anxious for his baby son, for hungry wolves had been known to find their way into houses. So he told Gelert to stay behind and guard the baby. The dog lay down beside the cradle. Prince Llewelyn went off happily, knowing his son would be safe with the dog to guard him. Soon the sound of the hunting horn disappeared into the distance and Gelert was left alone.

After a while Gelert heard a strange sound. He pricked up his ears and sniffed the air. What was that strange scent? There was a shuffling sound in the corridor. Who or what could it be? The half-shut door slowly opened and a large grey wolf stared hungrily in. Gelert growled.

The wolf bared his fangs, looked beyond Gelert and saw the baby. Here was a tasty meal. The wolf leapt towards the cradle. Gelert leapt too, at the wolf's throat. The two animals were locked together, snarling and biting. The fight was long and savage. There was fur and blood everywhere. The cradle overturned but the baby lay safe and asleep under the blanket.

At last Gelert made one final effort and sank his teeth deep into the throat of the wolf. The wolf writhed and lay still. Gelert fell to the floor, weak from loss of blood, and licked his wounds.

When Llewelyn returned from the hunt a terrible sight met his eyes. His baby's cradle was overturned, and blood was spattered everywhere. Slowly Gelert crawled towards his master, with blood dripping from his jaws. The baby was nowhere to be seen.

'Wicked animal, where is my son?' screamed Llewelyn. 'You have killed and eaten my only child!'

With a cry of rage Llewelyn sprang forward and thrust his sword deep into the dog's heart. Gelert's dying howl did something that the noise of the fight had not done. It woke the baby. Llewelyn pulled the cradle aside. There lay his baby boy, and beside him lay the body of a large grey wolf. Llewelyn realised it was the wolf's blood on Gelert's jaws, and Gelert's reward for saving the prince's son was death.

Filled with remorse Prince Llewelyn buried his faithful hound and named the place 'Beddgelert', which means 'the grave of Gelert'. Today in Wales you will find the village of Bedgellert, named in memory of the story of the faithful Gelert.

(Legend from Wales)

1. Anger

Thinking about the story

Key question: What does the story mean?

1. What kind of dog was Gelert?
2. Who was Gelert's owner? What kind of person was he?
3. Why was Gelert left alone in the castle?
4. What made Gelert think that a wolf was coming?
5. Why did Gelert fight the wolf? What happened?
6. When the prince returned what did he think, feel and do?
7. Did the prince have good reason to be angry with Gelert? Would you have been angry?
8. Did the prince have the right to kill Gelert? Is it ever right to kill an animal?
9. What is special about where Gelert is buried? Why was it made a special place?
10. What kind of story is this? Do you think it is a true story? Why?

Thinking about anger

Key question : What does anger mean?

1. What is anger?
2. What do people look and feel like when they are in a rage?
3. What is the difference between being in a good temper and bad temper?
4. Does getting angry do any good?
5. What makes you feel angry?
6. Can you control your anger or temper? How?
7. Who gets angry with you? Why?
8. If someone gets angry with you does it do any good? Can you give an example?
9. Is it possible to be angry for no reason at all?
10. Would it be possible never to be angry?

Further activities

- * Draw or paint an 'angry' picture.
- * Write a poem about anger ('Anger is ...')
- * Act in a group a situation when someone gets angry and does something which he or she is sorry for afterwards.
- * Listen and respond to a piece of music you think sounds angry e.g. *The Rite of Spring* by Igor Stravinsky
- * Read and discuss a poem about anger e.g. *A Poison Tree* by William Blake

2. Animal rights

Buddha and the Swan

Buddha was born more than 2,500 years ago in northern India. He was a prince, the son of a rich king, and his name was Siddhartha. When he was born, his father sent for wise men and priests to foretell the baby prince's future. One said that he would become a great emperor, another said he would become a holy man. The last said that he would leave home and become a great teacher when he found out about old age, sickness and death. The king wanted his son to be a great emperor, not a monk or a teacher. So he gave orders that the prince should grow up never knowing about old age, illness or death.

When Siddhartha was a boy he was never allowed out of the royal palace, and he never saw people who were old, ill or unhappy. Even dying flowers were picked from the royal gardens so that he would not see them. All he knew about were his rich family, their servants in the palace, and the animals that lived in the palace grounds. The young prince learned how to read and write, how to ride a horse and how to shoot a bow and arrow. He became very good at these things, so much so that his cousin Devadatta became very jealous of him.

Even when he was young Siddhartha had a compassionate nature. Here is what happened when he found for the first time an animal that was suffering.

One day when Siddhartha was with his cousin in the palace grounds they saw a swan. Devadatta reached for his bow and arrow, took careful aim and shot the bird.

'Look at that,' said Devadatta. 'Shot him first time!'

The great white bird fell bleeding to the ground. As soon as he saw the swan fall, Siddhartha ran over to it and carefully pulled out the arrow. He took some leaves and began to wipe the blood away. He nursed the bird in his arms, stroking its white feathers.

'Take your hands off my swan!' shouted Devadatta. 'You've no right to touch it. It's my swan. I shot it!'

'Yes,' said Siddhartha. 'But I'm trying to save it.'

'That's not fair,' said Devadatta. 'It's mine. I shot it. You must give it to me. If you don't give it back I'll take you to court.'

'All right,' said the prince. 'We'll let the court decide.'

Devadatta and Siddhartha went before the Judge in the royal courtyard of the palace. Whilst they were waiting Siddhartha refused to be parted from the swan. He kept it with him, nursing it in his arms. Now it was up to the Judge to decide. Who should the swan be given to? To Devadatta who had shot it, or to the prince who had tried to save it?

The Judge looked carefully at the swan, and saw that it was recovering from its wound. He then gave his judgement. As the swan was alive, due to the care of the prince, he should be allowed to keep it. Otherwise it would have died, and then Devadatta who had shot it could have claimed it.

After some time the swan recovered completely and the prince set it free again. All his life Siddhartha cared for animals. He would never kill living beings, and he told his followers that they should *kill no living things*. This was the Buddha's first teaching.

2. Animal rights

Thinking about the story

Key question: What does the story mean?

1. Who was Buddha?
2. What did the wise men foretell about Buddha's life? What does 'wise' mean?
3. What did the king say Buddha should never know about? Why?
4. Buddha is described as having a 'compassionate' nature. What does this mean?
5. Who was Devadatta? Can we tell from the story what he was like?
6. Why did Devadatta think the swan was his?
7. What do you think Buddha said to the judge about the swan?
8. What do you think Devadatta said to the judge about the swan?
9. What did the judge decide? Was he right? Why?
10. What was the Buddha's first teaching?

Thinking about animal rights

Key question : What is the right way to treat animals?

1. Is it right for human beings to hunt and kill animals? Why?
2. What is the difference between a wild animal and a pet? Is a swan a wild animal or pet?
3. Who do wild animals belong to - someone, no-one or everyone?
4. If an animal belongs to me, do I have any right to kill it? Why?
5. Should pets and wild animals be treated in the same way? Why?
6. Are there any differences between human beings and other animals?
7. Do animals think? If so, can you give an example?
8. Do animals feel pain? Why do you think so?
9. Do animals have the right to kill and eat other animals?
10. Do human beings have the right to kill and eat other animals?

Further activities

- * Find out about endangered species. Show and illustrate where they live on a world map
- * Make a survey of pets. Ask pet owners to describe how they care for their pets
- * Listen to a tape of animal noises, try to identify each animal; or listen and respond to animals described in music e.g. *Carnival of the Animals* by Saint Saens
- * Act being a wild or pet animal for others to guess. The one who guesses correctly which animal has the next turn
- * Imagine you have an unusual pet: a lion, snake, elephant etc. Write about your life with your pet. (See *Pet Poems*, poetry anthology ed. R. Fisher (Faber))

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Appendices

- 1. List of publications by Robert Fisher**
- 2. Conference presentations by Robert Fisher**

Appendix 1: Educational publications by Robert Fisher

1. Books on teaching and learning

Together Today (1981, 1983, 1988) Evans/Bell & Hyman,
Together with Infants (1982) Evans/Bell & Hyman,
The Assembly Year (1985) Collins,
Religions (1987) Macdonald,
Problem Solving in Primary Schools (1987) Blackwell
Investigating Maths (with A. Vince) (1989) Bks 1-4, Blackwell, (1990) Spanish ed.
Teaching Children to Think (1990) Blackwell, (1994) Simon & Schuster
Teaching Juniors (1991) Oxford: Blackwell
Recording Achievements in Primary Schools (1991) Blackwell
Investigating Technology (with J. Garvey) (1992), Bks 1-4 Simon & Schuster
Investigating Technology (1994, with John Garvey), Bks 1-2 Melbourne: Longman
Active Art (1994) Book 1, Book 2, and Picture Pack, Simon & Schuster
Active PE (1994, with D. Alldridge) Book 1 and Book 2, Simon & Schuster,
Teaching Children to Learn (1995) Stanley Thornes
Stories for Thinking (in press) Nash Pollock

2. Poetry anthologies: (edited)

Amazing Monsters (1982, 1986) Faber
Ghosts Galore (1983, 1986) Faber
Funny Folk (1985, 1991) Faber
Witch Words (1987, 1991) Faber
Pet Poems (1989, 1993) Faber
Minibeasts (1992, 1994) Faber

3. *Journal articles published since 1992*

- Editorial, QWEST no 1 educational journal of West London Institute, January 1992
- Newsletter from Europe, Thinking 1992
- Book Review: 'Can we teach intelligence?', QWEST no 2, Autumn 1992
- Questions for Thinking*, Multimind, vol 1 no 3 October 1992
- Centre for Thinking Skills*, The Stag, Society of Authors journal, Issue no 11, Spring 1993
- '*Learning to Think, Thinking to Learn*', Effectiveness in Schools, (National Governors Fair 1992), published by Managing Schools Today (Questions Publishing) Spring 1993
- Cooperative learning*, Curriculum, Vol 14, no 1, Spring 1993 pp 23-35
- '*Philosophy for who?*', SAPERE Journal, vol 1, no 3, May 1993, p17-20
- Centre for Thinking Skills*, QWEST no 3, Summer 1993
- Getting our thoughts together* : Mendham Conference report, SAPERE Journal, August 1993
- A present in words, the value of poetry for children*, Poetry Books for Children, Faber 1993
- Moral Education and Philosophy in Schools*, SAPERE Journal, vol.1 no 5, December 1993
- Talking to learn*, Socratic Education Aspects of Education no 49, Autumn 1993
- Thinking Skills and the Able Child* Curriculum for Able Children, NACE/NAGC/Middlesex University (Conference Papers of the 1992 NACE/NAGC Oxford Conference)
- Cognitive Care for the Elderly*, (1993) International Journal of Cognitive Education and Mediated Learning, Vol 3, No. 3 p177-183
- Stories for Thinking* (1994) Early Child Development and Care Vol 107 p85-96
- Moral education and philosophy in schools* , NAVET Papers Vol X, November 1994 p10-13
- Learning to think - thinking to learn*, Synapse 2 (RSA Newsletter), November 1994
- Philosophy through art* (1994), SAPERE Journal, 1, 8 (December 1994) p7-10
- Research Day on Philosophy for Children* (1995), SAPERE Journal, 1,9 (May 1995) p14-17
- Book Review: Children's Thinking (M. Bonnet)* International Journal of Early Childhood Education, (Summer 1995) Vol. 3, No. 2, p 85-87
- Socratic Education* (1995), Thinking, Vol. 12, No. 3 pp23-30

4. *Centre for Thinking Skills - occasional papers published 1992-5*

- No 1 Teaching Thinking: a select bibliography
- No 2 Creative thinking: an introduction
- No 3 Effective schools: research into effective primary and secondary schools
- No 4 Questions for thinking: strategies for effective questioning
- No 5 The Face of Thinking in Finland: review of a thinking skills project in Finland
- No 6 The Thinking Child: an introduction to intelligence, and how do to teach it
- No 7 Research Projects: current research at the Centre and how you can help
- No 8 Moral Education: ways of developing moral education in the classroom
- No 9 Philosophy for Children: an introduction
- No 10 Stories for Thinking: using stories to stimulate philosophical enquiry

Centre for Thinking Skills Information Pack (ISSN 1350-1259), edited by Robert Fisher Vols 1 - 4, issued three times a year from Spring 1992 - Autumn 1995. Published by the Centre for Thinking Skills, Brunel University, formerly West London Institute .

Appendix 2

CONFERENCES 1992 - 1995

where papers were presented by Robert Fisher on teaching thinking and philosophy for children

1. Conferences organised by Robert Fisher at West London Institute (now Brunel University) on philosophy for children

Nov 1991	A Meeting with Professor Matthew Lipman (video available)
July 1992	Philosophy for Children (inauguration meeting of SAPERE)
July 1992	US Writing Project, Summer Institute
October 1992	Knowledge About Language in the National Curriculum
March 6 1993	SAPERE Conference (Philosophy for Children)
October 30 1993	Moral Education and Philosophy for Children (national conference)
June 17 1995	Philosophy for Children (national conference)

2. Conferences at which Robert Fisher has presented papers on teaching thinking and philosophy for children

March 5 1992	NFER Project - Promoting Core Skills 11-18, NFER, Slough
March 28 1992	TSN Conference, London - Thinking Skills in Action,
June 12 1992	National Governors Fair (Birmingham) - Learning to Think
June 13 1992	Norfolk LEA (Norwich) - Teaching Thinking
July 4 1992	Whitefields Centre (London) - Thinking Skills and SEN
Sept 1-3 1992	Queen`s University (Belfast) - Teaching Thinking Skills
Oct 3-8 1992	Universities of Helsinki, Turku and Jyvaskyla (Finland) seminars
Nov 23 1992	University of Oxford, Dept of Educational Studies research seminar
Nov 28 1992	TSN Conference Bradwell School, Milton Keynes
March 17 1993	Solihull REACH Centre - Thinking Skills and the Able Child
March 20 1993	TSN Conference, London - organiser/speaker
March 29/30 1993	University of York - Arguments Project Conference
May 17-31 1993	Philosophy for Children (USA) - research and training seminars
July 17-21 1993	SAPERE Conference (WLIHE) - research seminars
Oct 30 1993	Moral Education and Philosophy for Children (WLIHE)
Feb 19th 1994	University of Central England - Philosophy for Children conference
March 19 1994	Croydon LEA conference, Croydon Professional Centre
March 19-23 1994	Mons University (Belgium) - international research seminars
April 6-8 1994	University of East Anglia - Critical Thinking conference
April 19/20 1994	West London Institute (British Council course)
May 20 1994	Inverness (Highlands Education Authority)
July 9 1994	University of Warwick conference (thinking skills/able children)
July 17-22 1994	MIT (International Thinking Conference, Boston, USA)
Sept. 7 1994	Loughborough University (BAAS Conference)
January 2-6 1995	SAPERE symposium, Christ's Hospital
January 15 1995	Growing Up with Philosophy, Conway Hall, London
February 8/9 1995	Thinking Skills conference, Highlands LEA, Inverness
March 2 1995	Thinking Skills Conference (Bexley LEA), London
June 10 1995	Thinking Skills Conference, University of Plymouth
June 17 1995	Philosophy for Children Conference, Brunel University College
July 10-15 1995	University of Melbourne, Australia - international conference
July 22-27 1995	University of Malta - paper (Publication 15)
Sept. 1-3 1995	College of St. Mark and St. John, Plymouth - research seminars
Oct 7 1995	Gateshead LEA conference - Teaching Children to Think
Oct 17 1995	Norwich LEA conference: Philosophy with Children
Oct 21/22 1995	Christ's Hospital, Horsham - SAPERE research /training seminars