

## I. HOW TO USE EDWARD DE BONO'S THINKING TOOLS

### AGE

Although this book is intended for use with children there is no upper age limit. The methods and techniques are just as suitable for adults as for children. Indeed, many of the methods have been taught to senior business executives and are used by them.

This is not surprising. The fundamental processes of mathematics are the same for every age. So are the basic thinking processes. With older children more is demanded. The techniques should be used more precisely. The answers should be more sophisticated. It becomes possible to use combinations of techniques. The practice items that are used can be more complex. Nevertheless the basic approach is the same.

The normal lower limit for most of the methods put forward in this book would be nine years old. This age limit can be lowered to about six years old with a patient parent and a simplification of the methods. It also follows that with unusually advanced children the age of use can be lower.

Following this section I shall give a list of those items in the book which are suitable for younger children. For example the drawing method can be used down to four-year-olds.

### TEACHING FROM THE BOOK

There are three possible ways of teaching from the book. With older, more sophisticated children and those who become interested in 'thinking', the youngster can read the whole book in parallel with the parent. The background points and the methods can be discussed. The exercises can be done together. In such cases it would be a convenience to have two copies of the book (or one for each youngster and one for the parent).

### GROUPS

I shall divide potential students of this book into three broad groups:

Young: Under nine years old Middle: Nine years to fourteen years Older: Over fourteen years

These very rough age groupings will be altered by ability. For example a very able child in the young group may be treated as a middle-group child. A youngster of less ability in the older group may be treated as a middle-group child.

The patience of the parent will also alter the groupings. A parent who is prepared to spend time studying the book and simplifying the processes may be able to use middle-group material with a child in the young group or older-group material with a child in the middle group.

### FURTHER USE AND REPEAT USE

If your children fall into the young age group parts of this book will not be immediately relevant. But those children will grow up and will pass through the middle group and the older group. Those parts of the book which were omitted the first time around can now be covered.

This book is not something that you go through once and then forget. You can go back to the book again and again. You can focus on different parts (for example the lateral-thinking techniques). You may want to re-do the section on 'Decisions and Choices' when there are many choices to be used. You may want to revise the 'Six Hats' in order to use the method as a basis for family discussions.

Regular sharpening of the cutting edges. Frequent checking of a shape against the template.

Sometimes the habit may consist of the automatic application of a principle, so the distinction between the two may not always be clear. The important point is that habits are routine procedures.

In the same way there are routine habits which a good thinker seeks to build up. For example, as a matter of routine, a good thinker will always pause to see if there are alternatives at any point.

There may be alternative ways of looking at the situation, alternative explanations, alternative courses of action, alternative values etc.

## TEACHING STYLE

Keep it simple. Avoid confusion. Be very clear as to what you are doing at the moment.

Practise the method on a variety of different practice items.

The teaching style is not so very different from teaching a sporting skill or running a physical education class. As a teacher you must make clear what you want and must be sure that you have been understood. Use plenty of examples to show what you are looking for.

It is important to teach 'from the centre'. This means using very clear examples. When you come across some confusion, for example: 'Is it this or is it that?', it is best to move on to another example rather than arguing it out philosophically (which is teaching from the boundary). Always make very clear what you are trying to achieve. You may not always succeed in getting there, but at least you know what you are trying to do.

In all cases it is much better to be simple and practical than to seek to be perfect and comprehensive.

Never spend too long on any one practice item or exercise. Even if the thinking on that item is very interesting, it is important to move to another item. It is the application of the method or tool to many items which allows a person to build up skill in the use of the method. Remember always that the aim is to teach thinking skills, not just to have an interesting discussion in which some thinking is taking place.

## DISCIPLINE

This is very important in the teaching of thinking skill. Without discipline there is waffle and drift and no sense of achievement.

The first discipline is that of time. The time allocated to each thinking exercise may seem very short. This is deliberate. When we first use the CoRT method in schools both teachers and students complain that they cannot possibly think about a subject in three minutes. After a while they find that they can do an amazing amount of thinking in three minutes - if they know that that is all they are going to have. The short time allowed means that the time is actually used for thinking and not for arguing and fooling around. This time discipline extends not only to each exercise but to the whole thinking session or lesson. Training in a skill always requires discipline, as any sports coach knows.

The second discipline is that of focus. What subject am I thinking about right now? What am I trying to do (method) right now? Thinking can be sloppy. A person asked to consider one problem comes up with ideas for another problem. In the course of discussion on one subject the conversation drifts to a totally different subject. While this may be the joy of 'conversation' it does not make for effective thinking.

Yet thinking should be free, unfettered and open-ended. This is true. The tighter the framework for the thinking the freer the thinking can be within that framework. A carpenter needs a strong tool and a skill in using that tool. The carpenter is free to use that tool for any purpose. But at any moment the carpenter knows what tool he or she is using and what is being done.

## NECKLACE STRUCTURE

This book could have been written in a logical sequence so that the different parts followed on from each other.

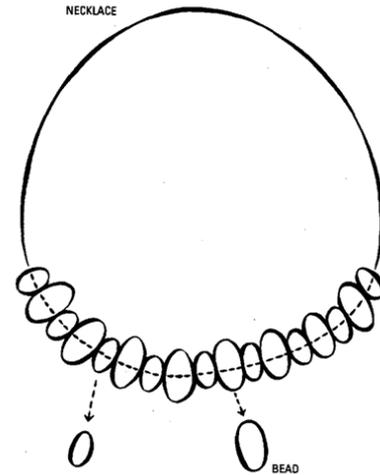
This book could have been written in a tidy, organized manner so that all 'tools' were in one section and all 'structures' in another. All the 'habits' could have been in one place.

If the book had been written in such a manner it would have been impossible to use as a teaching manual.

So the order and structure in the book are specifically designed to allow you, the parent, to teach from it.

Consider a necklace (diagram opposite). Each bead is complete in itself and yet all the beads together form the necklace. In a similar way the different methods put forward in this book are usually complete in themselves. Each method can be taken away and used on its own. This approach is very different from the 'hierarchical approach' in which you cannot move on to stage two unless you have mastered stage one. Similarly stage one does not mean anything until you have got to stage two.

This necklace approach is what I sometimes call the 'parallel' approach. It means that if a teacher teaches five tools and the student does not understand one of them, is away from the class when another tool is taught, forgets a third tool and does not know when



## MOTIVATION

Motivation is the key point. Without motivation it is going to be very difficult to teach any thinking at all.

Unfortunately, telling a youngster that 'thinking' will be of great help at school or in life after school will not have a strong motivating effect with most children.

Thinking must be lively, fun, enjoyable and almost a game. My experience has shown me that children do enjoy thinking. They enjoy using their minds and having ideas. But they must be able to perform. Presenting a youngster with an almost impossible problem is the very opposite of motivation. If an exercise or practice item seems difficult or boring, move on to another item. The process is what matters, not individual items.

The period between nine and eleven years old is possibly when children enjoy thinking most of all. After that age youngsters become somewhat conservative and want only the 'right answer'. Teenagers tend to be both defensive and smug about their thinking - because of a fear of being wrong. It is always important to avoid the judgements of right and wrong. Thinking is a performance. Sometimes you perform well and at other times not so well - as is the case with all skills. You may be playing tennis at below your best but you are still playing tennis.

Much of the motivation has to come from the choice of practice items or exercises. Many of these should be fun and speculative. It is a bad mistake to focus only on heavy and serious items.

## ATTITUDES

Attitudes affect our whole approach to thinking, so I shall begin here with looking at the attitudes of the good thinker. These should then become the attitudes with which the rest of the book is approached.

### *GOOD ATTITUDES*

These are the attitudes I would expect to find in a good thinker. Many good thinkers already use these attitudes, having developed them as part of their natural 'wisdom'. If you already have such attitudes it is useful to see them spelled out and confirmed. If you do not already have such attitudes it can be useful to acquire them.

First of all there are attitudes towards the skill of thinking itself.

... 'Everyone has to think - everyone can think.' Thinking is not only for very clever people or people in specialized areas. Everyone uses thinking at different times. Everyone can develop a useful skill in thinking.

... 'Thinking is a skill that can be developed.'

Thinking is not like your height or the colour of your eyes - about which you can do nothing. Thinking is a skill like skiing, swimming or riding a bicycle. The skill of thinking can be acquired.

... 'I am a thinker.'

This is the best attitude of all. It does not matter how good a thinker you may be. It is enough that you consider yourself a thinker.

... 'I can get better and better at thinking.'

This is important. Even the best thinker can get better and better. From this attitude arises the effort to improve thinking skill all the time.

... 'Thinking may require a deliberate effort.'

It is not enough to suppose that being a good thinker is enough and that therefore all thinking will be good. There are times when thinking requires a deliberate effort - perhaps the use of a tool or structure. Thinking is not always automatic.

... 'Things that appear complicated at first can often be made more simple.'

Do not be put off by apparently complicated matters. Be ready to tackle them. It may be possible to make them more simple - if not, there is no harm in having tried.

... 'Take one step at a time.'

If you take one step at a time and keep going, you can tackle most things. Know what step you want to take and take it.

... 'Separate your ego from your thinking. Look at your thinking objectively.'

This is very difficult to do but necessary if you want to become a good thinker. 'You' and 'your thinking' are two separate matters.

... 'The purpose of thinking is not to be right all the time.' The purpose of thinking is to get better ideas and to get better at thinking. If you have to be 'right' all the time, you only end up where you started.

... 'Listening and learning is a key part of thinking.'

Thinking is not only what you are putting forward but also what other people are putting forward.

... 'Always be humble - arrogance is the mark of a poor thinker.' It is not always easy to be humble when the people around you are prejudiced, blind, limited in their view and plainly wrong. But you should make the effort within your own thinking. Consider that your own thinking may be wrong or incomplete or only one view of things.

## ***BAD ATTITUDES***

It will be easier to appreciate the right attitudes towards thinking if we look first at some of the bad attitudes.

... 'Thinking is not important. Gut feeling is all that matters.'

... 'Thinking is boring and confusing and never gets anywhere.'

... 'I find all problems too difficult.'

... 'Thinking is only for academics and intellectuals - other people have to get on with things without thinking about them.'

These are all negative or defeatist attitudes from people who have no confidence in their thinking and have not been taught to think. But there is also the opposite type of bad attitudes when people are too arrogant about their thinking and have a wrong view of the purpose of thinking.

... 'I find thinking very easy. You just look at something and make up your mind about it.'

... 'I find that I am always right. I have no trouble defending my ideas.'

... 'The main purpose of thinking is to prove that those who disagree with you are wrong.'

Those were some attitudes towards the skill of thinking and its use. Now we can consider some attitudes about the nature of your thinking.

... 'Thinking should be constructive, not negative.' It is not enough to attack and to prove the other party wrong. This negative type of thinking is far too common. There are times when it has a value, but that value is very limited. Start out trying to be constructive and to take things further.

... 'Explore a subject instead of arguing about it.' If the purpose of argument is really to explore the subject, then you can jointly explore the subject much more effectively by choosing to explore it rather than to argue.

... 'The other party in an argument usually has something useful and constructive to say, if you make the effort to pick this out.' Instead of just looking for points of attack, try to see what is of value in an opposing position.

... 'People with differing points of view are usually right according to their own special perception.' Instead of considering others stupid try to see their perception and why they hold the view they hold.

... 'It is possible to be creative and to have new ideas.' Creativity is not a special gift which only some people have. You can make an effort to have new ideas (you can also use some specific techniques to help you).

... 'Do not be afraid to try out ideas.'

You do not have to be right all the time. You can try out tentative ideas. You can even use deliberate provocations - provided you indicate they are intended as provocations.

... 'At any point in thinking there may be alternatives that you have not yet thought of.'

Never believe that your thinking has covered all possible alternatives. Although this may occasionally be true, there are very often alternatives - even obvious ones - that you have not yet thought of.

... 'Avoid dogmatism even when you do feel that you are right.' If your idea is good enough, it does not need the dogmatism. If your idea is not good enough, the dogmatism is misplaced. You can always say, 'From the information I have, it seems to me that...'

This list of attitudes is not exhaustive. You can probably add to the list. The attitudes listed can be expressed in many different ways. Some things that might have been put down as attitudes (such as 'Think slowly' or 'Always consider the values involved') I have put down under principles or habits. There can be a lot of overlap in such matters. Under 'attitudes' I have tried to include only the general approach to thinking rather than specific guidelines.

## EXERCISES FOR ATTITUDES

Explain and discuss the notion of 'attitudes'. This could include attitudes to sport, to music, to friends, to school etc.

Read through the list of bad attitudes. Do you think any of your friends have these attitudes? Discuss why some people might have these attitudes. Discuss why these might be bad attitudes.

See if you can add any further bad attitudes to the list. You may even do this by breaking down a listed bad attitude into more parts.

Go through the good attitudes, one by one, and discuss why the attitude is a good attitude. You may be able to suggest specific circumstances in which the attitude is not so good - but avoid doing this for fear of creating confusion. It is enough if the attitude, by and large, is a useful attitude.

Set as a task the picking-out of the five most useful of the attitudes. The purpose of this task is not really to select the most useful five but to get an examination of all the attitudes (which is necessary for the selection process).

If you have to combine the good attitudes to a smaller number how would you do it? (This exercise is suitable for older or more able children.)

If you had to add to the list of good attitudes what might you add? (This can be done on a discussion basis or set as a written task.)

(note: In all these exercises the request is usually directed to the child or student - as if the exercises were to be placed in front of the child.)

## SUMMARY

So the model of the carpenter provides us with all the elements of thinking skill that I shall be describing in this book.

Attitudes: The attitudes with which we approach thinking.

Principles: The guiding principles that make for good thinking.

Habits: The routines we seek to make automatic.

Basic operations: The fundamental operations of thinking.

Tools: The thinking tools we practise and use deliberately.

Structures: Formats in which we hold things for convenience.

Always keep in mind the model of the carpenter as he or she goes about constructing things.

## II. THINKING CLUBS

The thinking clubs are separate from the rest of the book. No one has to set up or take part in a thinking club. The thinking-club structure is an opportunity for those who want to make use of the opportunity:

Single families or a joining-up of more families who want to have a more formal setting for going through this book and developing thinking skills.

Those who have learned the thinking skills in this book but realize that without frequent practice these skills deteriorate. Such people may also want to take their skills further (with other material of mine).

Those people who have come to enjoy thinking and want to have an opportunity to enjoy thinking as one might enjoy a sport or a hobby. It helps if there is a place, a time and other people.

Those who know that they will not have the discipline to learn and practise the thinking skills on their own - and also find it more enjoyable in a group.

Those who want to give a basis and a purpose to meetings that would otherwise be simply social.

### PURPOSE OF THE THINKING CLUBS

Different people may have different purposes in setting up a thinking club, or joining one. The five main purposes are:

Learning and developing thinking skills in a deliberate manner. The direct learning of thinking as a skill.

Specific opportunity to practise thinking skills. This is to improve those skills, to prevent the skills deteriorating, and a direct enjoyment of thinking (as a sport or hobby).

The application of thinking skills to problems, tasks and projects. These can be of a personal nature, a practical nature or a remote nature. Both the exercising of thinking skills and the practical outcome have values.

A reason to meet and enjoy the company of others. Thinking provides an interesting and positive way of interacting with others. Instead of polite conversation there are frameworks for discussion.

A base from which others can be persuaded that thinking is an enjoyable skill, that thinking can be learned, that constructive thinking is important for the future well-being of the world.

### ACTIVITIES OF THE THINKING CLUBS

The specific activities of the thinking clubs will be covered in more detail later in the section. They are:

Learning thinking skills.

Practising thinking skills.

Applying thinking skills to specific projects.

Applying thinking skills to personal or local matters.

Thinking about and discussing major issues.

The actual mix of these activities will vary with the composition and motivation of the members of a particular thinking club. For example a club with young members might want to concentrate on skill development. A club with active adult members may want to apply thinking to specific projects. A club with mainly senior members might enjoy discussion about world issues.

## PRINCIPLES

In general the principles of good thinking that have been discussed in this book would form the basis of the thinking taking place in the thinking clubs. All the same, it is worth spelling out five fundamental principles.

1. The thinking must always be constructive in nature.

The thinking is directed towards operacy (skills of doing) and towards effective thinking. The purpose of the clubs is not philosophical contemplation.

There is a direct interest in developing and improving thinking skills. And not in showing how clever you are and how you can win arguments.

At all times the thinking must be enjoyable. The thinking must not be too complex or generate too much emotional stress.

The clubs will be based on my approach to thinking. This is very important, because the mixing-up of different approaches can create total confusion even where the different approaches have merit.

In sport too many coaches create a mess.

It is possible to run thinking clubs on different principles. Anyone is free to do so. Good luck to you. I am putting forward my own suggestions here.

## PRACTICAL MATTERS

The suggestions here are given as guidelines. They can be adjusted or modified according to circumstances or the nature of particular groups.

Discipline:

Because thinking is so free in nature, discipline is very important. Without discipline the clubs will quickly degenerate into opinion and argument sessions in which one or two people seek to impress the others. If this is what the group wants, the members of that group can enjoy it - but that is not what I mean by a thinking club.

The main discipline is that of time and focus. If there is a strict time discipline, the mind becomes disciplined about other matters. Time discipline means starting and ending at the specified time. It means sticking to set timings for the exercises. It means cutting off a discussion at the end of the time limit.

Years of experience have shown that time discipline in thinking enables people to think much more productively and much more rapidly. Without time discipline there is just waffle, drift and argument.

Focus discipline is also important. This means clear definition of the task, thinking tool or exercise. Focus discipline means knowing where you are and exactly what you are trying to do. This may seem to regiment and stifle thinking. It does nothing of the sort. If you know what you are trying to do, you are free as to how you do it. If you do not know what you are trying to do, you are not free at all but confused. Too often we mistake confusion for freedom.

Duration of Meetings:

No meeting should last longer than three hours.

The duration of a meeting could be one hour, two hours or three hours. This depends entirely on the members of the club and practical considerations such as time of day, travel and other demands.

It is possible to vary the length of meetings with some long and some short. This needs to be specified in advance.

The working part of the meeting can always be followed by a social part for which there is no time limit. There should, however, be no attempt to carry over the working part into the social part.

#### FREQUENCY OF MEETINGS:

My own preference would be for once a fortnight. If the meetings are short and held within a family, once a week is better for skill development. If people have to come from a long distance, once a month may be all that is possible.

The meetings can be held at fixed times (day of the week and time). This is by far the most effective. When the times of the meetings are being changed to suit different people the club often falls apart. In all cases the time of the next meeting must always be specified at the end of the present meeting.

#### ORGANIZER:

The success and continuity of any club depends largely on the energy and ability of the initial organizer. This person must have a lot of energy, an ability to get on with people and some organizing ability. This person does not have to be a great thinker or even to understand the thinking skills very well. If necessary, a different person can organize the actual steps of the meeting.

There should be one organizer. To rotate responsibility between different organizers does not work. The organizer may, in time, set up a support committee to share out the work.

If any person does not get on with the organizer, that person is free to leave that club and start another thinking club. Discussion and the exchange of views is important, but too much politics and debate makes for a club that does very little.

#### PLACE OF MEETINGS:

In general the meetings would be held at someone's home. Occasionally there might be another type of meeting place that can be available. The location of the meeting may rotate from home to home, in which case the organizer works with the person who is providing the next location.

#### NUMBER OF PEOPLE:

There is no absolute limit but there are practical limits. Six people is the maximum number that can work as one group. With numbers larger than this the amount of time taken in listening to the individual outputs (from exercises) is too great. With eight people there is the possibility of working as two groups of four people each. With twelve there can be three groups of four or two groups of six. Twelve people is about the limit for a club. If there are more people, the club can be divided into associated clubs.

If a person misses three meetings in a row, that person is dropped from the club (unless the person is in hospital or away for a long time). New members can be invited to join the group as a guest for two meetings. The group then discusses whether they want to have that person join the group. This is an open discussion - not secret voting.

#### LOG BOOK:

There should be a formal record of each meeting. This does not have to be done by the organizer but may be done by anyone else who accepts that task. The formal record, in a log book, should not be less than 250 words and not more than 500 words.

The record should record date, time, duration and people present. The thinking skills covered in the formal 'learning' part of the meeting should be listed. There is no need to list the thinking items that are used directly for practising the skills. The practical items on which there is a more serious application of thinking should be listed. The problems or tasks need to be defined clearly. There is no need to list the thinking steps or the output - unless there is some outstanding idea.

Where the thinking is being seriously applied to a project or local problem, the record of this thinking can be kept as a project or problem file, quite separate from the log book. Having a tape-recorder handy in order to summarize the output of the 'serious' thinking session is useful. Notes can be made later from the tape.

## ACTIVITIES DURING A MEETING OF A THINKING CLUB:

I shall put down here the structure of an ideal meeting. As far as possible this structure should be adhered to. The biggest danger is that the thinking club just collapses into a conversation or argument session and the members stop coming. At first people may not like the discipline of structure but in time they come to see its value -since it allows 'thinking' to be practised and enjoyed.

### 1. Formal matters

Reading out of the report of the last meeting. Passing on apologies of those who are unable to attend this meeting. Introduction of guests. Any future organizational arrangements.

Time five minutes.

### 2. Thinking task catalogue.

What shall we think about? It is not easy to find things to think about. The exercises given at the end of most sections in this book do provide some things to think about and should be used for practising the relevant thinking skill.

This first part of every meeting is for members of the club to suggest further thinking items, tasks, problems etc. These should be written out so that they can be put into the 'catalogue' file. Members are supposed to think about and note such things between meetings. The items might include:

Practice items: These are specifically for practising the thinking techniques. Remember that there should be fun items - they should not all be too serious. There can be remote items as well.

Personal items: These are problems, tasks, difficulties which members of the club have (or friends of members). These are real-life difficulties. They can be put forward as third person items: 'I have a friend with this problem ...' or directly, 'I have this problem ...' If the matter is very urgent or topical it may be considered at this meeting rather than go into the file.

Local items: These are matters which are relevant to the local community. This makes the thinking more relevant and interesting. A local item may also develop into a project.

Project items: These are specific project suggestions. A project involves thinking that is going to be carried forward into action. It may be a local project: raising money for charity; helping disadvantaged youngsters, protesting about damage to the environment etc. If nothing else, each thinking club should organize a party once every two months. There may be suggestions for new projects. Also, in the course of carrying through current projects a new problem may have emerged and this can be put forward.

World affairs: These are serious thinking items that may concern affairs outside the community: in the country at large or the world. Such items might include drug problems, greenhouse effect, unemployment, housing shortage, particular conflicts, racism, equal rights, AIDS care etc.

Time ten to fifteen minutes.

(If there is insufficient time the items can be written out and given to the organizer later.)

### 3. Skills learning and practice

This is the most important part of the meeting. The members should have copies of this book or the material and they go through the skill on their own. There is brief discussion to see if everyone is

clear about the skill. Where the club has young members, a parent or adult can set out to teach the skill directly.

Practice of the skill follows immediately. Specific items should be set for each practice item. The practice items can be done by individuals (usually) or by small groups who exchange ideas and give a single output at the end. Typical time for an item would be two, three or four minutes. At least five or six separate practice items should be covered if possible.

The thinking exercises and practice are essential for learning the different thinking skills. The output from the individual or group is not so important for skill development. But the output is important for motivation. If you think about something you want someone to listen to your output. The output should be kept as brief as possible - there should be no arguments or discussion about individual points. Otherwise the output part of the practice can take up most of the time. It is far better to do five practice items with brief outputs than two items with extensive outputs.

Time thirty to forty-five minutes.

#### 4. Comment upon thinking skill

The learning and practice of a particular thinking skill is followed by a discussion of this skill. The purpose of this discussion is to reinforce the learning of the skill.

To be sure that everyone is clear about the skill.

Discuss the usefulness of the skill.

To examine the application of the skill.

As I have indicated elsewhere, these discussions should always be constructive: 'What can I get from this?' The reason is that if people are asked to find negative points (because they have been asked to find both positive and negative points) they will make an effort to do so. These negative points, even if very minor, are then attached to the skill and reduce its usefulness. In the case of the carpenter we might claim that a saw cut leaves a rough edge or that a chisel might slip and cut your hand - but, on the whole, the saw and chisel are very valuable tools.

Time ten to fifteen minutes.

#### 5. Application to personal matters

This is an opportunity for members of the thinking club to have fellow members give some skilled thought to a problem or task. This can be put into third-person form, 'I have a friend with this problem,' or dealt with directly, 'This is my problem.'

It is important that people do not expect miracle results. I would not expect something really original or useful more than 20 per cent of the time.

It is important that this section does not overrun the time allocated to it.

The item can be obtained from the 'catalogue' of items or it may be a fresh item that has just arisen.

The consideration of the item should involve one specific thinking skill and should not become just a general 'helpful' discussion.

Time twenty to thirty minutes.

#### 6. Application to local matters

The particular problem or task may come from the catalogue or may be fresh. A local matter is one which affects the local community. This means that it is larger than an item affecting an individual or family but smaller than one affecting society in general or a whole country.

It is the relevance of the problem that is important. This means that there has to be careful consideration of people, values and impact. There will be disagreements and disputes.

At this point the local problem (or task, or design) is just for thinking about. If members of the club decide that they want to 'do' something about the matter, that item can become a specific project.

It is important that the outcome of the thinking should be clearly stated - as a conclusion or an outcome of any sort.

Time twenty to thirty minutes.

#### 7. Project report and thinking

A project involves thinking that is going to be carried through into action.

Because the emphasis of the thinking clubs is on operacy and effectiveness there should always be some projects in hand. Otherwise the thinking activity may just become discussion, argument and contemplation.

At first the projects chosen should be small ones where there is going to be an output. As confidence and skill builds up, the projects can be more ambitious.

A project file should be kept on each project - quite apart from the log book of the club.

A project is handled by a project team which has a project leader (volunteer) and any number of members.

There are several things that can be done in this section:

Discuss and select a project.

Think about carrying through a project.

Report back on progress of the project.

Define new focus areas and problems that have arisen and that require thinking about.

All the thinking about the project does not have to take place at the thinking-club meetings.

Members of the project team can meet at other times to do additional thinking.

When there are no other projects (and even when there are) the club should hold a party every two months. There should be an attempt to make this different in nature each time. Outside guests are invited to these parties.

Time thirty to forty-five minutes.

## 8. World affairs

Thinking in this section is applied to major items. These are items about which the club is unlikely to be able to do very much. Nevertheless, it is useful to apply some thinking to such things. The items could include such matters as: third-world debt; burning of tropical forests; trade protectionism; refugees; energy conservation; effect of TV on politics; crises in education; inner city decay etc., etc.

The items can come from the catalogue or from current news. For example, you can take that day's newspaper and pick out one item.

There should be a deliberate application of thinking techniques rather than a conversation and exchange of views. This section could easily degenerate into a parade of opinions without too much thinking.

Time twenty to thirty minutes.

## 9. Final matters

A final wrap-up with organizational details (for example details of the next meeting). Any other matters. Time five minutes...

## TOTAL TIMING

The total timings given here add up to a minimum of 150 minutes (two hours and thirty minutes) and a maximum of 210 minutes (three hours and thirty minutes).

These timings are reduced in the following ways:

There is no need to go through each section at every meeting. Where the meetings are short, the items can be alternated from meeting to meeting. For example, there may be a local item at one meeting and a personal item at the next meeting.

The amount of time spent on each section can be much reduced. The timings I have suggested are for longer meetings. It may be enough to spend just five minutes on one item.

The only timing that should not be reduced is the time spent on learning and practising the thinking skill. This should never be less than thirty minutes. The 'comment' time can be reduced or even dropped in short meetings.

For example a 'one-hour' meeting would consist of formal matters, (five minutes), thinking skill learning (thirty minutes), one application section (ten minutes), project thinking and report (ten minutes), wrap-up (five minutes).

It is important to set out the timings and schedule in advance rather than proceed from moment to moment. Do not be afraid to cut off thinking at any moment even if important matters are being discussed.

## MATERIAL

This book should provide the basic thinking skills material for the thinking clubs. Only one thinking skill (or habit) should be attempted per session. In fact it is better to devote two sessions to each skill - and sometimes more with the more complex skills. After that it is possible to go on to the full CoRT Thinking Program (published by SRA). There is also additional material.

Each club should build up its own 'catalogue' of thinking tasks and projects. In time a master catalogue might be produced in cooperation with different thinking clubs.

It is much better to learn a few tools and to be able to use them effectively than to read a lot of material. It is not a matter of understanding the thinking process but of being able to use a thinking 'skill'.

## TRAINING

In time it may be possible to organize specific training for those who want to run thinking clubs.

## REGISTER OF THINKING CLUBS

Every club can operate entirely on its own as a way of learning and practising thinking skills.

I shall, however, be setting up a personal register of the most effective thinking clubs. No club can apply for registration until it has held at least five regular meetings. Copies of the log of these meetings together with a short general report should be sent to me.

## **THE FIVE-MINUTE THINKING FORMAT**

This format can be used for practising thinking in order to develop thinking skills. It can be used for practising thinking at odd times. The format can also be used for serious thinking about a subject.

The time discipline is very important, since this is what forces the thinking to concentrate on thinking. The time should be strictly set by a watch and the different stages indicated. It is much less valuable if you just set out to think for 'roughly five minutes'. In using the format for the purposes of this book I strongly suggest that accurate timing is kept.

### ONE MINUTE

Be clear about the purpose of the thinking. Be clear about the focus. Be clear about the sort of outcome you need. Be clear about the situation.

If not enough information has been given you, do not waste time asking questions. Instead, set your own circumstances and then give these when you give the answer. For example, if the problem is about a boy who steals, you may want to know the age of the boy and how often he has stolen. So you say: 'I am assuming this boy is fourteen and this is the first time he has stolen.'

### NEXT TWO MINUTES

First of all you explore the subject in terms of information and your own experience. Then you start to have some ideas.

Finally you try to condense your ideas into a number of alternatives. These alternatives may be courses of action or solutions to a problem.

Later in this book there will be some tools that will help with this stage of thinking. For the moment it is enough to use your existing thinking skills.

At the end of the two minutes you should have some alternatives. The sort of questions that might help you are:

Is there an obvious answer? What are the usual answers here? In very broad terms what would I like to do? How can I put that wish into practical action? What other ways are there?

#### NEXT ONE MINUTE

This is the stage of choosing or deciding. At the end of the previous stage you should have put forward some alternatives. Now you have to decide between them. The sort of questions that might help you are:

Which alternative is most likely to work?

Which alternative would be most acceptable in practice?

Which alternative best fits my needs and priorities?

Which alternative best fits the circumstances of this thinking exercise?

The particular circumstances of the thinking exercise are important. You may be expected to come up with the most sound answer - even if this is well known. At other times you may be expected to come up with an original idea - even if this may not work.

#### FINAL ONE MINUTE

If you have reached a conclusion, answer or decision, test it out by going through the reasons why you think it will work. You may have time to compare it with other possible solutions to show why the one you chose is better.

If you do not have a final conclusion, you should spend this minute defining the outcome of your thinking in another way.

What have you learned through thinking about the subject?

What alternatives have you considered (even if you could not decide between them)?

What alternative approaches might there be - even if these are not solutions?

What further information do you really need? What are the sticking points? What are the key problems?

Output

At the end of the five minutes you must be able to give your output. You must be able to do this directly without waiting to be asked questions.

#### EXERCISES ON THE FIVE-MINUTE THINKING FORMAT

Do a five-minute format on the following situation. Your neighbour's guests always park their cars in front of the garage of your house so that the garage cannot be used. What can be done about it?

Do a five-minute format on the following situation. A survey shows that most people eat far too much and are overweight. What can be done about that?

Do a five-minute format on the following situation. A girl feels that a teacher is being very unfair to her - what can she do?

A factory produces a rather bad smell. The company that owns the factory is getting lots of complaints from the people living around. When the factory was built there were no houses near by. Now there are many. What should the owners of the factory do? Try a five-minute format and give your outcome.

If man had been in charge of the path of evolution and had been able to choose whether to live on land or in the water like dolphins - what might have happened? Try a five-minute format and give an outcome.

Do a five-minute format on how you would treat young criminals (aged fourteen to seventeen).

A friend of yours wants to hold a party at her home but her mother has forbidden it. Do a five-minute format on how you might solve this problem.

## THE TEN-MINUTE THINKING GAME

You can have a discussion, a conversation or an argument. Although these involve some thinking, the ten-minute thinking game provides a framework within which two people can apply thinking in a more direct manner.

There is no winner or loser. The game is to be enjoyed by both players (a two-person game).

Ideally each section should be timed to last exactly one minute. The game can also be played in a more relaxed manner, in which case the timing does not have to be so exact. The game should, however, always be played briskly.

The two players are 'A' and 'B'.

A: says a single word (noun, verb or adjective).

B: gives a context, setting, scene or circumstance.

A: from the word and the setting creates a specific thinking task. This may be exploration, design, problem-solving, opinion etc. 'A' must clearly define the objective: 'I want you to end up with ...'

B: explores the situation and comes to a definite conclusion, suggestion or solution.

A: does a quick PMI on the solution put forward by 'B'. The Plus points, the Minus points and the Interesting points.

B: comments on the PMI given by 'A'.

A: explores the subject and puts forward a conclusion, suggestion or solution.

B: does a PMI on the solution given by 'A'. A: comments on the PMI done by 'B'.

B: over-all comment on the subject (was it a good one?) and the thinking (were there any interesting ideas?).

Total time: ten minutes, if each segment is strictly kept to one minute. If one stage takes less time, this can be added to the next stage. In other words, stage three should be over at the end of three minutes, stage seven should be over at the end of seven minutes, stage ten should be over at the end of ten minutes etc.

## EXAMPLE

A: 'Cat'.

B: Setting of the jungle.

A: That suggests tigers. Problems of tigers being an endangered species. I want solutions to this problem.

B: Tigers are killed by hunters. We need a way of protecting tigers from hunters. My suggestion is to make hunting illegal and also to set up special tiger reserves.

A: Plus points - reduce the killing of tigers. Minus points - the tigers in the reserve might interfere with farming and the people. Interesting points - will the tigers stay within the reserves?

B: Some tigers in reserves have become man-eaters and do cause trouble.

A: If we want more tigers we should breed them. My idea is to breed tigers in captivity and then to release them into the jungle.

B: Plus - you could breed from the best quality only. Minus - the process would be much too slow. Interesting - the captive tigers could be trained to avoid hunters before they were released back into the jungle.

A: The process could be speeded up if female tigers were captured for a few days only and given artificial insemination and then released immediately.

B (overall comment): An interesting subject. Reserves are already being tried with success. Some good ideas, especially the idea of 'training' tigers to avoid hunters. There might even be ways of doing this in the wild.

The advantages of the game are the need both to generate ideas and also to assess ideas. At each point each person has a specified task that has to be done rapidly. This is good training in thinking that is focused and thinking that is disciplined. Instead of the drift of ordinary conversation or the point scoring of argument there is direct practice of various aspects of thinking.

## EXERCISES ON THE TEN-MINUTE THINKING FORMAT

A two-person thinking game with a to-and-fro of thinking.

A subject is set up and each person generates ideas about that subject. These ideas are assessed.

One minute is allowed for each stage.

The game provides a fast-moving framework for the disciplined and focused practice of various aspects of thinking (task-setting; generating alternatives and solutions; assessment; comment).

Show a new way for washing windows in very tall buildings. (The windows get very dirty on the outside.)

How would you design a better bus? (Buses carry a lot of people but are not always comfortable.)

Design an underwater house. (So that scientists can watch sharks and other fish as they swim by.)

How could roads be made more quickly? (Making new roads is very slow and very expensive.)

Show how you would test a bridge. (Bridges get old and unsafe. We need to know if they are still safe.)

How would you stop people from driving too fast? (Fast driving causes accidents and injuries.)

How could you design a better table for meals? (Design a table that is specially suited for eating from.)

Show a new way of catching fish in the sea. (There are existing ways, can you find a new way?)

How would you put out forest fires? (Each year forest fires cause a lot of damage.)

Can you show a way of exercising people in their offices? (People have to work but need exercise too.)