



Deliberate

- A thinker should be able to turn on his thinking at will.
- A thinker should be able to direct his thinking to any subject or any aspect of a subject.
- This is not to suggest that in between this deliberate use of thinking he does without thinking.
- There are general aspects of thinking which apply at all times and which I shall discuss later in this section.
- At this point I want to emphasize the importance of being in control of one's thinking, of being able to use it at will.

Focused

Untrained thinking is usually of the point-to-point variety, drifting along from idea to idea.

- There is a lot of waffle and a lot of ineffectiveness.
- Such thinkers can often only become focused when they are attacking some point in the thinking of others.

To be focused in thinking is one of the hardest things to achieve.

The mind loves to wander off along interesting things that open up.

- There is room for this in thinking, especially in the creative aspects, but this hopeful drifting should not become the dominant idiom.
- In untrained thinking some idea triggers an emotion which in turn determines the way something is looked at and then thinking just follows this path without any genuine exploration of the subject.

The thinking tools mentioned at different places in this book and used in the CoRT thinking lessons provide a means for being focused in thinking.

- You can set out to do a deliberate PMI or OPV, and then do it.
- The first step is to determine to do it.
- The second step is to do it.

It is like giving a definite instruction to oneself.

The focus in thinking can be as tight as you wish.

- You may focus on "bicycles" in general or you may focus on "the shape of a spoke in a bicycle wheel."

Just as you might see a very general question or a very specific question in ordinary language, so in thinking the focus may be either:

Confident

Thinking should be confident.

Any skill is better if it is done with confidence – Be it skiing or playing tennis.

There is, however, a big difference between being confident and being arrogant. All aspects of arrogance.

To be sure that you are right, to be sure that your thinking is better than anyone else's, to be sure that there can be no alternatives, are all aspects of arrogance.

As I mentioned earlier, arrogance is the major sin of thinking – because it kills thinking.

A confident thinker is not necessarily a brilliant thinker.

Confidence has nothing to do with value. It is the way something is done.

A confident driver in a small car can drive with confidence.

He may drive rather slowly.

He knows the limits of his skill and exercises it with confidence.

A confident thinker does not have to prove himself right and the other person wrong.

He or she sees the thinking as an operating skill, not as ego-achievement.

A confident thinker is willing to listen to others.

He is willing to improve his thinking by acquiring a new idea or a new way of looking at things.

A confident thinker is willing to set out to think about something.

He or she is able to acknowledge that an answer has not been found.

A confident cook is able to make mistakes and to learn from them.

Enjoyable

If we only use thinking when we have insoluble problems then thinking is not likely to become an enjoyable skill.

Enjoying thinking does not necessarily mean being interested in puzzles, games and brain teasers.

It is more a matter of being able to think about different things: having ideas, working things out, engaging in a "thinking" type discussion.

There are boring discussions in which each party is trying to put across a particular point of view.

There are enjoyable discussions in which each party is exploring the subject – and at the end of such a discussion both parties have new ideas and stimulated thoughts.

Adults too, can enjoy thinking when their egos are not being threatened and when there is some formal structure which encourages them to think.

Thinking is not only for serious and solemn situations.

Thinking can be speculative and fun: 'What would happen ...?' etc.

Exploring ideas, designing ideas, playing with ideas are all part of the enjoyment of thinking.

Thinking should never be a matter solely of proving that you are right in a desperate sort of way.

If you only think in order to impose your own view on others then you will never get any more than you started out with.

Being right is really very dull.

Self-image

This is the most important point of all.

I mentioned it at the beginning of the book and I shall emphasize it again here.

The self-image of 'I am intelligent' or 'I am not an egghead' is a value image which has to be defended or maintained.

In the first case thinking is merely a tool to show how smart you are.

In the second case thinking is avoided because it has to be regarded as 'boring.'

The self-image of 'I am a thinker' is a totally different self-image.

It is not a "value" image but an operating image.

In terms of the skill of playing tennis can be improved by attention and practice.

The player enjoys playing even though he is not the best player in the world or even on that court.

So it is with the self-image of "I am a thinker."

It means that I can try to think about things, that I enjoy thinking about things, that I am interested in developing more skill at thinking.

If all my work, including this book, achieved no more than cause a shift to the self-image of "I am a thinker" I would be happy.

The techniques, understandings and methods are of secondary importance to this.

Time Discipline

We like to feel that thinking should be free and unforced.

The paradox is that a strict time discipline enhances not only the effectiveness of thinking but also the enjoyment.

You might get yourself to think about something for 30 seconds, or one minute or five minutes.

In the CoRT thinking lessons in schools it is an essential part of the method that only a short time (two to four minutes) is allowed for thinking about an item.

There are many reasons behind the use of this time discipline.

- In the first place it makes thinking more deliberate and more focused.
- The thinker switches on his thinking and operates it.
- The thinker focuses directly on the task, and does not get sidetracked.
- In time he becomes much better at thinking clearly about the matter.
- Even more important than this is the freedom that the strict time discipline gives.
- The time discipline takes the burden and stress out of thinking.
- Instead of having to go on thinking until you have solved the problem or gotten a wonderful answer you just have to think for two minutes.
- That is the "task" you have to perform.
- You know that at the end of that two minutes you can stop thinking – whether you have any idea or not.

In practice it is surprising how effective this time discipline is in removing the anguish of thinking.

At first people are a bit worried that they have not turned up any wonderful idea in the short time.

With practice they appreciate that this is not the purpose.

The purpose is that for the allotted time they should have been using their thinking – whatever the result.

With practice, even thirty seconds of thinking is a great deal of time.

After all, complicated dreams are supposed to take place within a few seconds of real time.

Harvesting

If you feel that you have only achieved something with your thinking when you have proved someone else wrong, solved the puzzle, found an answer to the problem or created a brilliant idea, then you are probably not going to try thinking in the first place.

Certainly you are not going to try it for just a few minutes.

"Harvesting" is the other side of the coin to "time-discipline."

The word "harvesting" is used in its normal agricultural sense: bringing in the crop of apples, wheat or whatever it may be. In this case it is thoughts or ideas.

It is a matter of making oneself aware of what has been achieved, even in a very brief thinking session.

- Perhaps some point has become more clear?
- Perhaps some idea has been identified as a blocking idea?
- Perhaps there is an actual suggestion?
- Perhaps some alternatives have been spelled out?
- Perhaps some point has been identified as a problem area that needs further thinking attention?

Sensitive harvesting means being actually aware of just what has been achieved.

There will always be something that has been achieved.

It is a matter of being aware of it.

The comment "I just keep going round in circles" is a considerable achievement as an identification of a "locked-in" situation.

Thinking about Thinking

The skilled thinker can do two things:

- He or she can think about the subject: perform the thinking task.
- He or she can think about the thinking used in performing the thinking task.

Thinking about thinking is not a common habit but it is an important part of the skill of thinking.

This "standing back" and being able to watch oneself in action – almost as an outside observer – is an important part of skill building.

The thinker should certainly get into the habit of being able to look at his or her own thinking.

He should be able to look back at the thinking he has used in performing a thinking task.

He should be able to look at the thinking he is using at the moment.

He should be able to look at the thinking he feels he is going to use.

The thinker should also be able to look at the thinking used by other people or used "in general" about a particular subject.

Looking at the thinking of others does not mean doing so with the aim of criticizing it or attacking it.

The intention is to watch what thinking is being applied.

Just as a bird-watcher watches birds. The better one gets at it, the more the fascination grows.

In looking at thinking, the following areas of observation may come to mind:

- blockages
- the recurrence of certain ideas
- emotional points
- possible difficulties in generating more alternatives
- blank spots
- other ways of looking at things
- the likelihood of a conclusion
- the identification of any sticking points
- difficulties in getting going
- finding a starting point, etc.

It is a useful exercise to write down a whole repertoire of these observations.

It is only by stocking your mind with such concepts that it becomes possible to 'observe' thinking.

For example, the concept of "value-laden" words then allows you to search for and pick these out.

Once you become conscious of the various uses of value-laden words, they do stand out more obviously.

Symbolic TEC

A symbolic representation of TEC is shown in the figure below.

These symbols can also be used separately as instructions to oneself or to others "to focus" or "to open up" or "to narrow down" or "to contract."

They could, for example, be placed in the margin of a report.

The TEC Framework

This is a very simple structure for focusing thinking and making of it a deliberate task.

The TEC structure itself will be incorporated in a "five-minute think," which I shall describe later in the section.

For the moment TEC is going to be treated in a more general sense.

T stands for "Target" and "Task"

- The "target" is the precise focus of the thinking.
- If we were looking at shoes we might choose to focus upon the heel or shoe style in general or the need for different right and left shapes.
- As mentioned under "focus" the target may be as general or as tight as you wish.
- Indeed a tight target may have been defined in a previous thinking session.
- The "task" is the thinking task that is to be performed.
- It may be ...
 - It may be a matter of review which involves looking at the way something is being done with an eye to improvement.
 - It may be a matter of fault finding and fault correction.
 - It may be a matter of problem solving.
 - It may also just be a matter of problem finding.
 - The task may be a creative exercise:
 - "How else could I perform the function of a heel?" or
 - "How could heels be made more useful?"
 - Any of the thinking tools mentioned in this book (or in the CoRT lessons) can become the "task."
 - You may set yourself the task of doing a C & S or an AGO.
- It is important to define both the target and the task rather precisely.

Explains for "Expand" and "Conclude"

This is the opening up phase.

- We could use lateral thinking techniques like the random word or provocation.
- We could do a CAF and consider all factors.
- We could scan our experience.
- We could analyze the situation.
- We could try to abstract familiar patterns.

In this phase we are opening up the field, filling in the map, exploring the territory.

A certain amount of wandering is permissible at this point.

It is not unlike those essay questions in school: 'Write all you know about ...'

The expansion is positive and free-flowing.

- We are not trying to exercise judgment or find the best ideas at this stage.
- We are pulling in information and concepts.
- 'Richness' is all important.

C stands for "Contract" and "Conclude"

This is the narrowing down phase.

We are now trying to make sense of what we have.

We are trying to come to a definite conclusion.

This may be a solution, a creative idea, an additional alternative or an opinion.

We can now use design, shaping and judgment.

Our conclusion is the outcome, not just a summary of it.

- What does it boil down to?
- What does it add up to?
- What is the outcome?
- What is the result?

There are three levels at which the conclusion can be set:

- A specific answer, idea or opinion
- A full harvesting of all that has been achieved, including for example a listing of ideas considered
- An objective look at the "thinking" that has been used

Even in the absence of anything at level (1) there should be an output at levels (2) and (3).

As a simple framework TEC can be applied at any point:

- focus
- set task
- open up
- narrow down and conclude.

The 5-Minute Think

This is a formal framework and it should be carried out formally with strict time discipline.

The timing is as follows:

- 1 minute: Target and Task
- 2 minutes: Expand and Explore
- 2 minutes: Contract and Conclude

Five minutes seems a very short time – which it is if the thinking is of the waffle variety.

- For focused thinking, however, it is a surprisingly long time.
- At first, many groups run out of thinking before they run out of time.
- The 5-minute think can be done by individuals on their own or by groups.
- A group should not be larger than four members, otherwise each member gets too little participation time.
- As mentioned above, the time discipline must be adhered to.
- This is important because it is the only form of discipline and adhering to it also means adhering to the focus.
- For example, it often happens that the thinker or the thinking group decides upon a target and task before the first minute is up.
- There is then a temptation to rush ahead to the next stage.
- This is to be avoided.
- The reason behind the strict adherence to the time is that if a thinker feels he or she may not have enough time in the expand and explore section, there is a temptation to rush the first section in order to create more time.
- The result is that the first section – which is deceptively simple – does not get proper attention.
- So stay with the first section until the time is up.

A sample 5-minute think is shown below.

...

The above sample does arrive at a definite conclusion.

In other cases this may not be so.

At the end of the 5-minute think there may only be a feeling of the difficulty of the subject or the need to set a more specific target.

If this seems to be the case then the "Expand and Explore" section can actually be used to identify and formulate an approach to the matter or to define a problem that can be tackled in another section.

The important thing is that the output must be definite, but that there are a large number of alternative outputs.

It is enough that something has been achieved.

It is unrealistic to expect the whole problem to be solved in 5 minutes.

There should be no sense of rush.

If there is, then the target has been pitched too widely.

It is also possible to repeat a 5-minute think with the same target.

I would, however, advise against doing this immediately because there is a temptation to turn a 5-minute think into a 30-minute think through a succession of sessions on the same subject.

This destroys the whole point of the exercise.

A sample 5-minute think is shown below.

In practice the ideas would be thought out rather than written.

The subject area is the telephone.

Target and Task (1 minute)

- new design of telephone
- correct some faults
- additional functions to be added to telephone
- some new type of telephone service
- concentrate on some major defect
- perhaps interruption is one of these
- ways of coping with telephone interruption

So the task is to find ways of coping with telephone interruption.

Expand and Explore (2 minutes)

- Use telephone answering machines.
- The Japanese have an answering machine to answer normal callers but special callers have a secret number which allows them to get through to the person.
- Have a secretary who says you are at a meeting.
- In the USA there are "voice mail" systems which are essentially one-way telephones through which someone leaves a message in your computer "mail box." You clear your mail box as often as you like and call back and leave a message in the other party's mail box. So the telephone is no longer regarded as a "real time" system.
- Some sort of special ringing tone – or better still a light – which allows you to tell whether the call is urgent. But people would chase and claim all calls are urgent – which indeed it may be to them but not to you. Could you perhaps see for yourself whether or not the call is urgent? A small print-out on a piece of paper of who the caller was and what he wanted would be a help. It could be on paper or on a screen. I believe there is such a device already in existence for deaf people.
- If it were on paper you could just tear off the list of names, numbers and reasons for calling and then call back when you wanted. It would be more convenient and quicker to scan than voices on a tape. But everyone would need either a keyboard or a device which converted voice into typing. A simple fax would help.
- It would be a nice means of having some way of telling who it was and what was wanted. A secretary could do this but it would still mean interruption and a lot of your time and hers.
- A visual read-out at the time would be better. If you were very busy you would not bother to read this until later. If you were less busy and the call was important you might want to pick up the phone there and then.
- You could, of course, always ask people to fax instead of phoning. The technology is not difficult and a print-out device probably already exists for deaf people.
- The major snag is that the sender would need a key pad. How could we get around this?
- Perhaps the sender could use the ordinary dial numbers on any phone by tapping in a special code. This would mean that any ordinary telephone could be used.

Conclusion:

a print-out device that attached to any phone and operated from another phone just by using the ordinary dialing numbers.

Overview of thinking: problem finding and problem solving

Focus on one particular problem: There are ways of overcoming this but these are not good enough; imagining an "ideal solution" and then looking around to make this practical; developing the idea, then focusing on a deficiency; finding a way around that deficiency.

The final result is a particular product idea which opens up a new phone function.

The above sample does arrive at a definite conclusion.

In other cases this may not be so.

Symbolic PISCO

These are the symbols representing PISCO:

PISCO

A rather fuller framework is provided by PISCO.

Both TEC and PISCO are more fully described in section VI of the CoRT Thinking Program.

The letters in PISCO stand for:

P stands for Purpose.

What is the purpose of the thinking?

Why is the thinking being done?

This is somewhat similar to the T of TEC but with rather more emphasis on why the thinking is being done at all.

I stands for Input.

This is the input information, experience and all the ingredients that need to go into the thinking.

At this stage the various tools such as CAF, C & S, OPV can be used to develop a rich map.

This is somewhat similar to the E part of TEC.

S stands for Solutions.

These are alternative solutions, ideas or approaches to the matter.

The word "solution" suggests a problem, but in this case it merely indicates concrete alternatives which are offered.

In this sense the S is a narrowing down not unlike the C of TEC.

Deliberate Practice of Thinking

We do not only learn to swim when we are drowning.

Nor do we only learn swimming in order to avoid drowning.

Swimming does serve this purpose but we also learn to enjoy it.

It could be the same with thinking.

TEC-PISCO

The two frameworks can be combined.

TEC is the more general framework.

PISCO spreads out the stages and can be more useful if there is an actual problem or matter that has to be thought about.

There is no particular time limit on the stages – just a consciousness of whichever stage is being used.

At any point in the PISCO process an area that needs more thinking can be identified and the TEC framework can then be applied directly at that spot.

For general purposes and the exercise of thinking skill the TEC framework is sufficient and there is no need to go for the more elaborate PISCO.

C stands for Choice.

This is the choice between the alternatives that have been offered at the previous stage.

A decision and an evaluation is made at the end of which there is but one surviving alternative.

The section on decision making could be of help here.

O stands for Operation.

This is the action stage.

This section is concerned with putting the chosen alternative into action.

What are the steps to be taken?

How is the matter to be staged?

The implementation of the idea is focused upon at this point.