METROPOLITAN POLICE

Working for a safer London

The Problem Solver's Guide:

Advanced

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August 2003

TPHQ

All information contained within this book
was correct at the time of publication.

(Document to be next reviewed December 2003)

Introduction

We asked people involved in applying Problem Solving what additional knowledge and skills they needed to be more effective. What they asked for was a greater understanding of Problem Solving and of the tools and techniques that support it.

As the result, a short modular course was designed and piloted by the MPS Problem Solving Unit, supported by representatives from partnership organisations.

This book accompanies the two modules, providing useful advice and information about the principles, procedures and practical application of Problem Solving.

We hope you find it useful.

Contact details for the MPS Problem Solving Unit are on Page 22.

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Module 5 - Defining the Problem

Aim and Objectives

Aim - That the participant can:

- examine and define any problem.

Objectives - By the end of this module the participant will be able to:

1. Revise all stages of the Problem Solving Process (PSP).
2. Recognise the two types of thinking.
3. Identify when Creative Thinking is being used within the PSP.
4. Identify when Linear Thinking is being used within the PSP.
5. Learn the Oxbow Principle.
6. Apply the Oxbow Principle to any stage of the PSP.
7. Experience answering an interviewer who is using diagnostic questioning.
8. Apply diagnostic question to define a Problem.
9. Apply an aid (TEDPIE) to soften diagnostic questioning.

PSP File/Form 302

This is where you put your companyfcounciS details and, if you wish, your L030

URN: PSP / [redacted] / [redacted] / [redacted]

PROBLEM SOLVING PROCESS - PSP

Administration

Department/Un it/Team	[redacted]		
	Name	Local ref. (Pay no. etc)	Telephone Number(s)
Person Leading	[redacted]	[redacted]	[redacted]
Deputy	[redacted]	[redacted]	[redacted]
Date Started	[redacted]	Last Update	[redacted]

1 The Demand

1.1 What is the demand? 1E22I

1.2 Where is the demand coming from? S3J8S

1.3 What is the significance of the demand? §J[redacted]

2 The Problem

2.1 What is the problem? [redacted]

2.2 Who are our partners? 11311

2.3 What measurement have you put in prior to the interventions? [redacted]

3 The Aim

3.1 What is it you want to achieve? [redacted]

4. Authorisation

Department/Unit/Team Manager

Have checks been made to ensure that no one else is working on this problem? [redacted]

Have appropriate background checks been completed? [redacted]

I am the line manager and I do Q do not El support the need for action at this time.

My reasons are: EUSH

I recommend an assessment every: [redacted]

Name [redacted] Department [redacted] Date [redacted]

Problem Solving Advisor's Comments (If one has been appointed): [redacted]

5 Researching the Problem

5.1 How is the problem currently being handled?

5.2 Who shares your problem? S H U

5 3 Vir*imf<} !3F™^

5.4 Offenders) ^Z^L

5.5 Location(s)

6 Analysis

6.1 Victim(s) profile U

6.2 Offender(s) profile

6.3 Location(s) profile

7 Problem Solving Meeting(s)

8 Options

8.1 Victim(s) fi

8.2 Offender(s)

8.3 Location(s)

9 Response

9.1 Victim(s)
Risk assessment for each intervention:

9.2 Offender(s)
Risk assessment for each intervention:

9.3 Location(s)
Risk assessment for each intervention:

10 Evaluation

10.1 Victim(s) 1

10.2 Offender(s)

10.3 Location(s)"

11 Review

1L1 Has it met the aim? 'sMak;

11.2 If yesj how has it met the aim?

11.3 If no, why did it not meet the aim?

12 Closure

12.1 Comments/Observations by the Line Manager dosing this file:

12.2 Comments by Problem Solving Senior Manager (Lead):

The Problem Solving Process (PSP)

Purpose This guide allows you to see all of the different stages on one page. The word *process* means "A defined way of working through something."

The Demand
What is the demand and who is making it? What is the significance of the demand?

What is the problem? Define the problem.

What is your Aim? What do you want to achieve? How will you measure success?

Research - What is out there? Who are your partners?
Victim **Offender** **Location**

Analysis - Making sense of your research
Victim **Offender** **Location**

Problem Solving Meeting(s).
This is where you, your colleagues, and others with an interest in resolving the problem, can make a contribution. PSMs are used to develop a range of options to tackle the problem by using the research, analysis and local knowledge.

Options - What can be done?
Victim **Offender** **Location**

Response - What interventions are being put in place?
Victim •• **Offender** **Location**

Evaluate - How well did the individual interventions work?
Victim **Offender** **Location**

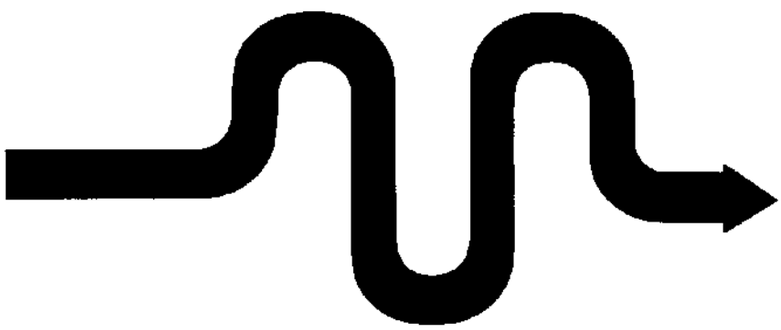
Review - Has this initiative met the Aim?

Combining Two Types of Thinking – The Oxbow Principle

Your mind thinks in two ways: **Linear** and **Creative.**

Linear Thinking uses logical, analytical and straightforward thought processes to find the quickest solution from A to B. However, the quickest solution isn't always the best. Imagine that a road planner has to design a road that gets from A to B. How would the Linear Thinker cope with having several villages, churches, wildlife habitats and a lake on the route? Bulldoze through? Give it up as *too difficult?'

Creative thinking is how we [4]think around' a problem. There are many fanciful terms for it ('thinking outside the box' etc.) but what it all boils down to is the ability to look at a problem from ail sorts of directions, not just in a straight line. Our Creative Thinking road planner would look at alternate routes, bridges, tunnels, aqueducts etc. but would also be creative enough to sit back and think, "Do we actually need the road in the first place?"



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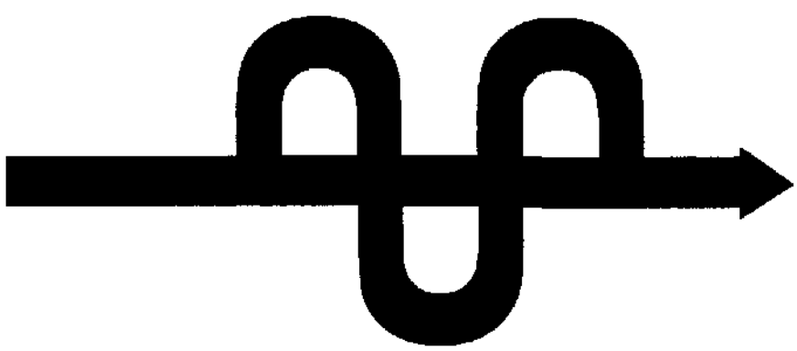
To be a truly effective Problem Solver, you need to use a mix of the two types of thinking.



Diagnostic Questioning

"I keep six honest serving-men
(They taught me all I knew);
Their names are What and Why and When
And How and Where and Who."

From *The Elephant's Child,* published in *Just So Stories* (1902) by Rudyard Kipling.

Kipling's 'six honest serving-men' are the basis of all good questioning. One way to build upon them is to use Diagnostic Questioning (Opposites). Often, it is easier to find the answer to a question by looking at what the answer isn't.

Opposites

What is the problem?	What isn't the problem?
Where is the problem?	Where isn't the problem?
What is distinctive about it?	What isn't distinctive about it?
What does the problem involve?	What doesn't the problem involve?
Who does the problem involve?	Who doesn't the problem involve?
When did/does the problem occur?	When didn't/doesn't the problem occur?
What is the same when the problem occurs?	What is different when the problem occurs?
How big is the problem?	Is the problem getting bigger or smaller?

TED PIE

You can soften the questions by using this grid.

Tell me	Explain	Describe
Precisely	In detail	Exactly

What	Why	When	How	Where	Who

The subject of the question

What is your Problem?

Record your Problem here in one or two sentences. Then swap books with your partner.

Define the Problem

Use this space to record the answers to your Diagnostic Questions.

Continue overleaf if necessary

Module 6 - Techniques for Problem Solvers

Aim and Objectives

Aim - That the participant can:

- Applying appropriate techniques to improve the use of the PSP

Objectives - By the end of this module the participant will be able to:

1. Recognise 12 Problem Solving Tools and Techniques that can be used throughout the PSP:

   Active listening
   Brainstorming
   Chain diagrams
   Devil's advocate
   Diagnostic Questioning (Covered in Module 5)
   Discussion
   Pareto (Covered in Module 4 - Standard Course)
   Ranking and Rating
   SWOT Analysis
   Thinking
   Timeline
   Why Why Why?

2. Apply any of the 12 Problem Solving Tools and Techniques

3. Create for themselves a broader range of alternative options to their work problems

Tools and Techniques

As the course progresses, you will be shown these tools and techniques working in practice. Make a note of examples in the boxes provided **(Diagnostic Questioning** and **Pareto** have been completed for you).

1. Active listening

Although it appears very passive, this is a highly sophisticated helping technique. It means setting aside your own view of the problem and trying to understand it from the other person's point of view instead. Doing this can help the person clarify their thinking and gain new insights into the problem. This will allow them to see their own solution and plan of action. You provide people with the opportunity to talk through their ideas. Below is a checklist of essential behaviours.

- Open body posture and eye contact.
- Smiling and nodding and using encouraging noises like "uh huh" to reaffirm your interest.
- Confirming your understanding by paraphrasing the description of their problem.
- Encouraging the person to say more with expressions like 'tell me more".
- Using silence to allow people time to think.
- Avoiding any value judgements about what the person is saying.
- Reflecting and summarising.
- Exploring how the person feels about the situation.

Example:

2. Brainstorming

An intentionally uninhibited technique for generating the greatest number of possible ideas, causes of problems or solutions to problems for later investigation and evaluation. It works best with no more than 12 people and by taking no longer than 2 hours. An approach could be:

- State the problem and discuss.
- Restate the problem.
- Select a basic restatement and write it down "In how many ways can we ..."
- Have a warm up session.
- Brainstorm ideas and seek the wildest idea.

Example:

3. Chain diagrams

These are drawings that show how the main elements of a problem are related, like a flow chart. They can be very complicated, with many parallel processes, multiple branching and feedback loops.

Example:

4. Devil's Advocate

This is when one person deliberately argues against the group or the person. The pressure and confrontation can promote creativity.

- Get your solution together.
- Find **a** suitably cynical person and put the solution to them.
- Encourage them to comment on your solution.
- When the criticisms come in you must defend them and don't give in.
- For every adverse comment you need to ask "What would you do?"

Example:

5. Diagnostic questioning

This is a more focused technique using open questions and statements to explore a problem more thoroughly. This sometimes highlights gaps in knowledge and as a consequence focuses participants on what information they need.

Example:

What is the problem? What isn't the problem? Why are you reading this book? Why aren't you reading this book?

6. Discussion

This is talking to others about a problem to get additional ideas. Discussion can provide a different perspective on the problem and its implications. It may also trigger new ideas.

Example:

7. Pareto - the 80/20% Principle

Vilfredo Pareto, a 19th Century Italian economist, stated that: "In any series of elements to be controlled, a selected small fraction in terms of number of elements almost always accounts for a larger fraction in terms of effect".

The Pareto Analysis is a prioritisation technique that helps separate the major causes (the vital few) of a problem, from the minor ones (the trivial many). One in five ratios.

Example:

80% of thefts from vehicles occur on 20% of the Borough. 80% of the wear on a **carpet occurs in 20% of the carpet area.**

8. Ranking and rating

This is used when you have a range of options and it is likely that some will be more preferred than others. **Ranking** is the structured process of placing a number of options in order of preference. To rank anything, it is necessary to score the various options. This scoring is called **rating.** In rating, each of the options is scored on the basis of pre-selected criteria. Criteria would be divided between **must** and **should.** Two main situations for its use would be:

a. To choose which problems can be solved with only limited resources.

b. To choose between alternative solutions/courses of action.

Example:

9. SWOT analysis

This is a structured approach to exploring the **Strengths, Weaknesses, Opportunities** and **Threats** presented by a particular situation. Its use ensures that all opinions and views are considered.

Example:

10. Thinking

Not always as obvious as it sounds. Very often people will plunge straight into looking for results rather than stop and take the time to examine a problem and think about it. Remember that many companies have been successful by out-thinking their competition. Mix the two types of thinking: **Linear** and **Creative-**

Example:

11. Timeline

This involves drawing a line to represent a period of time (hour, day, week etc.) and plotting along the line when problems occur. It provides a strong visual representation of patterns, peaks and behaviour.

Example:

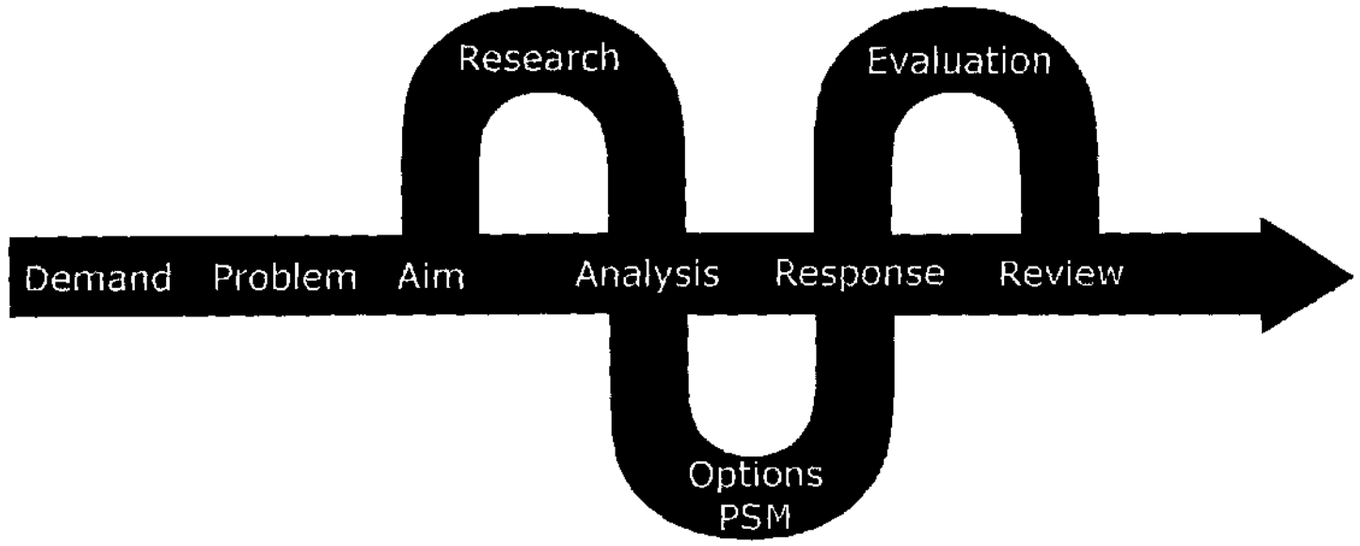
12. Why why why?

This is where you first summarise the problem. Then you ask the question "Why might the problem exist?" Only use *might* at this stage as we may not know the definite reasons, only the potential reasons. Record the reasons. Then ask 'Why?' again against each of the reasons given. It normally takes 4 Whys to get the answer.

Example:

Many other analytical tools and techniques exist and there are many books and courses that can teach you more. As a start, we have provided a bibliography on Page 21.

Two Types of Thinking - The Oxbow Principle



Where do the Tools and Techniques fit?

Bibliography and suggested reading

Training for decisions
John Adair 0 566 02111 0

Problem Solving Techniques that really work
Malcolm Bird 0-7499-1109-3

Analysing Competence
Shirley Fletcher 0 7494 2195 9

Measuring customer satisfaction
Richard F Gerson 1-56052-178-3

Practical Problem solving and decision making
Richard Hale and Peter Whitlam 0 7494 2219 X

Training for Total Quality Management
Dave Jeffries, Bill Evans and Peter Reynolds 0 7494 2066 9

MPS Manual of tools and techniques

Creative Thinking and Brainstorming
J Geoffrey Rawlinson 0-566-02247-8

How to be a better problem solver
Michael Stevens 0 7494 1901 6

The MPS Problem Solving Unit

We are always interested in your views, comments and experiences of practical Problem Solving. Please contact us at any time if you wish to discuss or ask about any aspect of Problem Solving and the PSP.

We can be contacted as follows:

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The Problem Solving Unit would like to thank the following people and their organisations for helping us to pilot the course and who provided valuable feedback;

Steve Batchelder (Training Sergeant,Transport OCU, MPS)
Jenny Burbeck (Antisocial Behaviour Team, Lewisham Local Authority)
Gary Buttercase (Chief Inspector (Partnerships), Enfield Borough/NIM Team)
Sharon Corkill (Finance Manager, Merseyside Police)
Ian Douglas-Todd (Sergeant, Problem Solving Advisor, Southwark Borough)
Steve Farley (Constable, Problem Solving Advisor, Bexley Borough)
Maggie Gardener (Antisocial Behaviour Unit, Lewisham Local Authority)
Mike Hoare (Retired Commander/Lecturer Cranfield University)
Andrea Kilvington (Galleon Housing Assoc. Greenwich & Bexley)
Zena Lee (Galleon Housing Association)
Linda Morris (Project Manager, Royal Society for the Prevention of Accidents (RoSPA))
Carl Parker (Senior Crime Analyst, Wandsworth Borough Council)
Flore Pirard (Crime Analyst, Wandsworth Borough Council)
Aimee Reed (MPS Analyst, Wandsworth Borough)
3an Strachan (Inspector, Haringey Borough)
Keith Taylor (Constable, Merseyside Police/ACPO Problem Solving working group)
Keib Thomas (Community Support Co-ordinator, Southwark Council)
Ian Webber (Sergeant, Project Officer Excellence Model, MPS)
Paul White (Detective Sergeant, Bexleyheath Intelligence Unit)