

Ponder.

# Navigate Complexity

## ● About

The 21st century is throwing us many complex challenges – both entrenched problems and exciting opportunities.

But, too often there is wasted time and money as we figure out what to do.

## Complex problem-solving is the most important skill we need this century

That's the finding from the OECD, World Economic Forum\* and many other organisations as they research the future of work and jobs.

It's not easy to achieve outcomes in a world where things are interconnected in messy, dynamic and often counter-intuitive ways, where ideas are contested and the future is uncertain.

But without effective ways of grappling with complex problems, we end up with logjams, unintended consequences, and perhaps worst of all, little or no progress towards alleviating entrenched problems, and, missing the exciting opportunities.

Complex problem solving is very different to the linear, step-by-step problem solving process most of us are familiar with. It's just no longer sufficient to do some research, identify and evaluate some options and make and implement a recommendation. The world is too dynamic, uncertain and interconnected for that now.

\*WEF [www.weforum.org/agenda/2016/03/21st-century-skills-future-jobs-students](http://www.weforum.org/agenda/2016/03/21st-century-skills-future-jobs-students)

OECD [www.oecd.org/edu/the-nature-of-problem-solving](http://www.oecd.org/edu/the-nature-of-problem-solving)

Complex problem solving is a dynamic and iterative approach for determining how to bring about desired outcomes for a complex challenge. It requires a range of **higher-order thinking skills** and relies on **five concurrent activities...**

#### **STRATEGIC THINKING**

Deciding how to use available resources to achieve outcomes efficiently and effectively.

#### **DESIGN THINKING**

An approach for achieving desired outcomes through an iterative and creative process of forming, testing and refining ideas and engaging stakeholders throughout the entire process.

#### **CREATIVE THINKING**

Forming original and useful ideas and insights.

#### **SYSTEMS THINKING**

Recognising that the world is comprised of interconnected things and how those things are interconnected determines outcomes.

#### **FUTURES THINKING**

Thinking about what might happen in the future, the implications should they occur, and what could be done now to mitigate the risks or amplify the benefits.

#### **ANALYTICAL THINKING**

Gathering information and inquiry to help understand and explain things.

#### **STRUCTURED THINKING**

Organising information in a way to facilitate planning, analysis and generation of insight.

#### **CRITICAL THINKING**

Reasoned thinking to inform opinions, decisions and judgments, and, determining if the information we use for that purpose is relevant, accurate, timely, complete, consistent, fair and balanced, of sufficient breadth and depth, and supported with sound evidence.

#### **BUILD A DEEPER UNDERSTANDING OF THE SITUATION**

so we can be informed about what to do rather than guess

#### **RE-DESIGN THE SYSTEM AND RIGOROUSLY THINK IDEAS THROUGH**

to achieve the outcomes we want effectively and efficiently, and to anticipate the unintended consequences

#### **TAKE AN EVIDENCE-BASED APPROACH**

to build a strong case for, and confidence that your ideas will work

#### **LEARN AND ADAPT**

so your strategy maintains its relevance in a dynamic and uncertain world

#### **ENGAGE OTHERS**

not because we're told we should, but because its critical for success – to inform, test and build support for your ideas

However there is not much practical guidance around on what complex problem solving means in practice. For example, what should we actually be doing to rigorously think things through, to think strategically, critically and to apply systems thinking?

At Ponder we believe there is a huge opportunity to make more progress with the challenges of the 21st Century by making complex problem solving skills more accessible, tangible and practical. It's the gap our *20 Questions* aims to fill.

There is a pattern to the questions we should ask ourselves when problem-solving is complex and difficult to navigate. We've captured that pattern into ***20 Questions for complex problem solving and strategy development (and practical techniques to help answer them)***.

The *20 Questions* don't give you the answers, or do the thinking for you, but they remind you of what you need to think about. They prompt your thinking, and, the practical techniques help you to answer the questions and do that thinking.

The *20 Questions* and their techniques are a very unique collection of valuable ideas from a range of disciplines, including engineering, logical reasoning, outcomes-focused strategy, systems thinking, behavioural insights, evidence-based policy, complexity science, interdisciplinary perspectives and learning and adaptive design.

The *20 Questions* and their techniques embed the eight higher-order thinking skills, so that if you are asking (and answering) the *20 Questions*, then you are complex problem solving.

The *20 Questions* bring structure to a messy issue, and help you to generate insights, to assess ideas, to provide guidance, direction and feedback to others, and to develop rigorously thought-through strategies for achieving outcomes for complex challenges.

Complex challenges require contemporary thinking.

Ponder.

**We help people and organisations to achieve outcomes for the complex issues they are grappling with.**

We can help you to build a deeper understanding of a complex issue that's important to you, and to think in a structured and strategic way about it to achieve the outcomes you want.

We offer a range of services from facilitation of workshops and round tables, to analysis and strategy development. Our clients include Commonwealth and State & Territory government departments, universities, NGOs and private sector organisations.

Our approach is based on the *20 Questions for Complex Problem Solving and Strategy Development* (overleaf).

*Visit our website or call us for more information.*

STRATEGY DEVELOPMENT  
**Consulting & Facilitation**

**Our seminars and workshops build life-long thinking and complex problem solving skills for everyone – from the most junior analyst to the most senior decision-maker.**

Learn practical techniques to systematically and rigorously think through and grapple with a complex problem, to contribute insights, provide valuable guidance, direction and feedback to others, to think about things from different angles and perspectives, and to think strategically and critically on a daily basis.

Our workshops are based on the *20 Questions for Complex Problem Solving and Strategy Development* (overleaf).

They are designed to be inspiring and engaging, with many real-world examples to make the concepts and practical techniques tangible.

Our face-to-face workshops are modular and flexible. They range from a series of one-hour seminars, to several day workshops, and can be tailored according to your priorities. Or, enquire about our online learning option.

*Visit our website or call us to find out more.*

CAPABILITY DEVELOPMENT  
**Seminars & Workshops**

# 20 QUESTIONS

FOR COMPLEX  
PROBLEM SOLVING  
& STRATEGY  
DEVELOPMENT  
& PRACTICAL  
TECHNIQUES  
TO HELP  
ANSWER THEM

## Build a deeper understanding of the situation

so we can be informed about  
what to do, rather than guess.

## Re-design the system & rigorously think ideas through

to achieve the outcomes  
we want effectively and  
efficiently, and to anticipate the  
unintended consequences.

1

### CLARITY ON THE PROBLEM & DESIRED OUTCOMES

What is the issue? And what is the outcome you want?

2

### CONTEXT, CONSTRAINTS AND REQUIREMENTS

What are the political & policy context and constraints?  
What do we want the new system to do?

3

### KNOWN, UNKNOWN AND A PLANNED APPROACH

What do you know & what do you need to find out?

4

### UNDERSTANDING THE PROBLEM

What is the scale & nature of the problem? How has it been  
changing? Why is the problem occurring?

5

### NEVER MISS AN OPPORTUNITY TO LEARN AND GAIN INSIGHT

Really?, Why?, What's the 'so what'?

6

### THINK ANALYTICALLY

What structural changes to the system design could  
change its outcomes?

7

### THINK CREATIVELY

If you think about the problem and solution from different  
angles, what new and useful insights emerge?

8

### GOAL DESIGN

Have the goals, targets, KPIs and incentive structures been  
designed so they don't distort the system?

9

### ASSUMPTIONS AND NECESSARY CONDITIONS

What conditions need to be in place for the strategy to work?  
What assumptions have been made and are they  
being tested along the way?

10

### PEOPLE AND BEHAVIOURAL INSIGHTS

What factors influence what people think and do in this context?  
What unconscious biases might be influencing yourselves  
and others?

## Take and evidence based approach

to build a strong case for, and confidence that your ideas will work.

## Learn & adapt

so your strategy maintains its relevance in a dynamic and uncertain world.

## Engage others

not because we're told we should, but because its critical for success – to inform, test and build support for your ideas.

11

### CONSEQUENCES & TRADE-OFFS

How could this idea play out? What are the costs, benefits and potential unintended consequences? What are the trade-offs?

12

### INTEGRATION & IMPLEMENTATION

How will this work in practice? What needs to be done to put it into practice?

13

### EVALUATION, EXPERIMENTATION & KNOWLEDGE-SHARING

How will you determine what works and what doesn't?

14

### STRATEGY LOGIC

How will the things you plan to do lead to the changes you want?

15

### POLICY RATIONALE

What are the reasons for thinking the idea will work? What are the counter-arguments? Are the arguments sound?

16

### DATA & INFORMATION

What information supports (and contests) the reasons for thinking your ideas will work? Is it sound?

17

### LEARNING & ADAPTIVE DESIGN

What's the best idea you currently have? How will it adapt to things that change & to what you learn along the way?

18

### AGILITY, RESILIENCE & INNOVATION

What might happen in the future that could impact this work? How will your ideas be resilient to threats and ready for opportunities?

19

### INTER-DISCIPLINARY PERSPECTIVES

What are the inter-disciplinary views and why do people have those views? How can we have purposeful conversations in collaborative and contested contexts?

20

### COMPELLING COMMUNICATION

Are we explaining our ideas so they are understood by, and resonate with others?

**“We're all hungry for better answers. But first, we need to learn how to ask the right questions.”**

*– Warren Berger, A More Beautiful Question, The Power of Inquiry to Spark Breakthrough Ideas, p.9*

**"The most valuable people today are the ones who can turn their minds to anything."**

*– Professor Kathryn North AM, Director, Murdoch Children's Research Institute*

● Contact

**Jane MacMaster**

0402.018.495

jane@ponder.online

Linkedin: janemacmaster

www.ponder.online

© Copyright 2017 Ponder.

Ponder.