

BMSW4014 Problem Solving and Innovation

Chris Wilkin



Trawsnewid Addysg; Trawsnewid Bywydau
Transforming Education; Transforming Lives

Aims for today

- Introductions – you/me!
- Overview of the module
- Timings
- The assignment
- Moodle page
- Introduction to Creativity and Innovation
- Any questions you have
- What is problem solving?
- IDEAL problem solving model
- Problem of the week



A little about me, a little about you...

Chris Wilkin

HND, BA (Hons), PGCE/PSET, MSc, CIM, CIPR, MIH
Senior Lecturer



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Monday - Friday

9.00am – 5:00pm

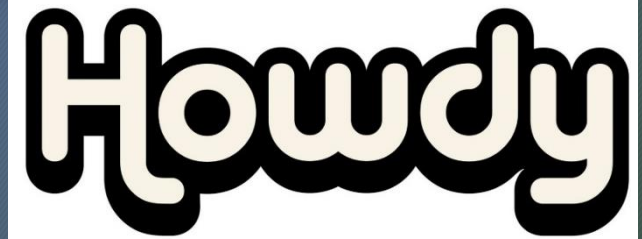
Aim to respond within 48

hours* *of the working week

Howdy



Time to introduce each other to me!



Get into pairs!

Describe your partner to the group (5 mins!)

In 'your' opinion what was their strongest subject so far?

What 3 words do 'you' think describes them best?

What job do 'you' think they would be terrible at?

What food matches their personality? (E.g “slush puppy” because they are cool as ice)

What superpower do 'you' think they should have?

Why do 'you' feel that they are a great person to know?

Learning outcomes

Upon the successful completion of this module, you should be able to:

- Identify and evaluate contemporary issues and their impact on today's environment.
- Gather and interpret information to understand a problem.
- Demonstrate understanding of approaches to innovation and generate solutions.
- Evaluate options to make a decision.

Student Support Services

- Support with academic writing
- Study skills
- Counselling services
- Extenuating Circumstances
- Full details on the Hwb

Any issues – you are welcome to contact me in the first instance.

Student Conduct

- Student Charter and Code of Conduct
- [Student Charter | UWTSD](#)
- [UWTSD Strategic Equality Plan Update – Sept 2021 – YouTube](#)
- Use of AI – Specific reference handbook.
Please speak to me with any questions.

Expectations

- Attend lectures on time every week.
- Notify me if you are unable to attend or running late.
- Reach out for support if you need it.
- Ask questions if you are unsure (after the lecture if you would prefer).
- Act with integrity. What does this mean?
- Reference your work accordingly.

A peruse of Moodle

- Module info
- Assessment links
- Weekly sessions
- Online resources/Leganto
- DigiCenter

Problem Solving and Innovation (BMSW4014_CARD)

[Course](#) [Settings](#) [Participants](#) [Grades](#) [Reports](#) [More ▾](#)

▼ Introduction ✎

Hello everyone and welcome to the Moodle page for your Problem Solving and Innovation Module - BMSW4014

Your lecturer for the Term:

- **Chris Wilkin (Module Lead)** - Email:C.Wilkin@UWTSD.ac.uk
- **Jaliya de Silva** - J.de-silva@uwtsd.ac.uk

I will be available to assist with any queries you may have and you will find all relevant content for the module on this page.

A flick through the module handbook

 Academic Support 	⋮
 Financial Support 	⋮
 Health and Wellbeing 	⋮
 Learning support 	⋮
 FINAL UG BA Developing Leadership Mgmt POSH 2024-25  PDF	⋮
 Harvard Referencing Diagram  DOC	⋮
 Module Handbook  DOCX  Hidden from students	⋮
 Module Handbook Autumn 2026  PDF	⋮



- Study time
- Weekly delivery
- Assessments
- AI use
- Assessment criteria/weighting
- Grading rubric

What is a problem?

- “A situation, person, or thing that needs attention and needs to be dealt with or solved” (Cambridge Dictionary, 2024).
- A problem can also be summarised as a circumstance where there is a gap between the situation as you perceive it and what you believe the situation should be.
- A perceived **gap** between the **existing state** and a **desired state**, or a deviation from the norm, standard or status quo (Edgar, 2021).

Is this a good source for a definition?



Examples of problems

- Consider your working life, what problems have you experienced?
- Did you follow a process to solve it?
- Could it have been solved in a better way now you have had time to reflect on it?



The Midnight Escape!!

A group of four survivors retreating from a battle are being chased by the enemy!. You reach a rickety bridge over a deep ravine. It's pitch black, and you have only **one lantern**.

The Rules:

- 1.Capacity:** The bridge is so weak it can only hold **two people** at a time.
- 2.Visibility:** To cross safely, at least one person in the pair **must** be carrying the lantern.
- 3.Speed:** Each person moves at a different speed based on their fitness and injuries. When two people cross together, they move at the pace of the **slower person**.
- 4.The Deadline:** The enemy will reach the bridge in **15 minutes**.

The Scout: Can cross the bridge in **1 minute**.

The Archer: Can cross the bridge in **2 minutes**.

The knight: Can cross the bridge in **5 minutes**.

The Injured king: Can cross the bridge in **8 minutes**.

The Midnight Escape!!

Lets take this up a notch.....

Time Limit: They must all cross in **26 minutes**.

The Rules:

- 1.Capacity:** The bridge is so weak it can only hold **two people** at a time.
- 2.Visibility:** To cross safely, at least one person in the pair *must* be carrying the lantern.
- 3.Speed:** Each person moves at a different speed based on their fitness and injuries. When two people cross together, they move at the pace of the **slower person**.
- 4.The Deadline:** The enemy will reach the bridge in **26 minutes**.

The Scout: Can cross the bridge in **1 minute**.

The Archer: Can cross the bridge in **2 minutes**.

The knight: Can cross the bridge in **5 minutes**.

The Jester: Can cross the bridge in **7 minutes**.

The Injured king: Can cross the bridge in **10 minutes**.

Problems

First stage is to recognise a problem exists and what level of problem is it?.

	Low-involvement problems	High-involvement problems
Decision effort	Low	High
Risk/consequences	Usually limited	Potentially significant
Information needed	Relatively little	A lot
Decision time	Short	Longer
Analysis	Often straightforward	Usually requires deeper analysis
Example	Choosing a coffee for a meeting	Choosing a new enterprise IT system

Problem solving strategies?



Basic question

Is this problem worth addressing?

Do we need more information before acting? & Is the problem getting worse?

How can we limit the damage?

How can we fix the underlying problem?

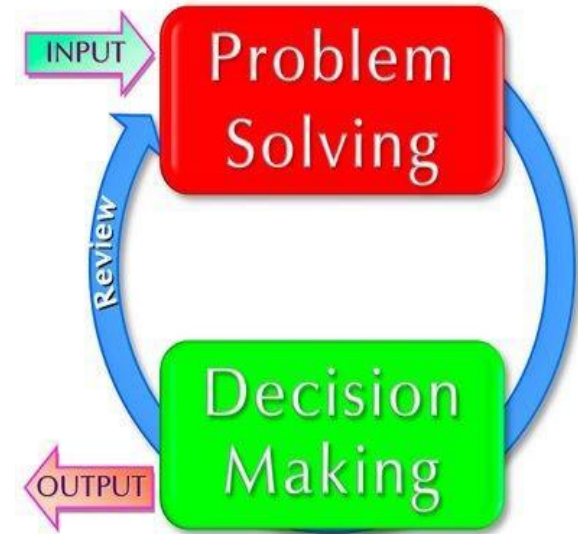
Lets give it a go, who can get the best score!



What is problem solving as a system?

IDEAL model proposed as an approach to improving problem-solving skills. Bransford and Stein (1993)

- I Identify problems and opportunities
- D Define goals
- E Explore possible strategies
- A Anticipate outcomes and act
- L Look back and learn



Proctor (2018, p71)

Identifying problems and opportunities

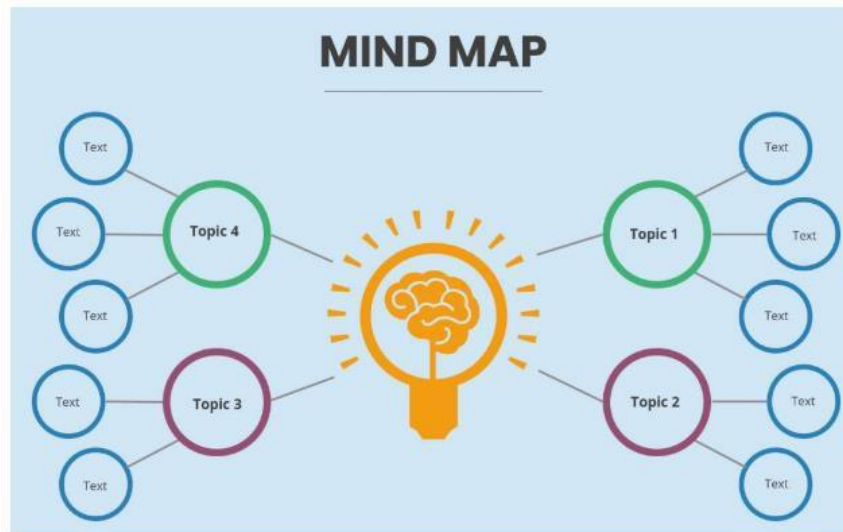
- Identify potential problems and treat them as opportunities to do something creative. - This will link to SWOT!
- Important to actively look for problems as well as to respond when they become critical or noticed. This approach can lead to a strong competitive advantage.

Defining goals

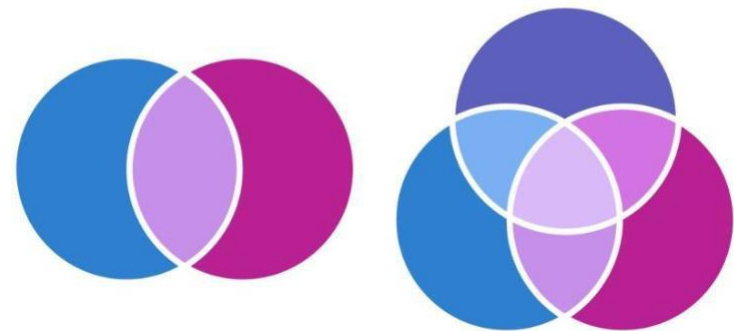
- Different goals often reflect how people understand or perceive a problem.
- Alternative goals should be considered to ensure a relevant goal is set.
- What is the desired outcome?
- If goals are not specified, could lead to an inappropriate solution.

Exploring possible strategies

- Involves re-analysing goals and considering options or strategies that can help to achieve those goals.
- Many ways of recording and analysing complex problems including mind maps and Venn diagrams.



VENN DIAGRAM



Anticipating outcomes and acting

- Once a strategy has been selected, contingency plans should be drawn up and the strategy implemented.
- It is often necessary to actively test strategies before possible outcomes can be anticipated.
- An example of this is the building and testing of a prototype, which can help anticipate the outcomes of a particular strategy.

Looking back and learning

- Review the effects and learn from the experience.
- Emphasis should be on the first step to solving the problem than an immediate solution.
- It is then possible to plan subsequent steps.



“Fun” Problem of the week

You are outside a room with no windows containing **three separate bulb lights**.

Outside the room are **three switches**. Each switch controls one bulb light.

You can manipulate the switches however you want, but when you enter the room the door locks behind you and you cannot return to the switches.

Challenge:

How do you determine which switch controls which bulb?

What have we covered today?

- Introduction to the module
- Overview of learning outcomes
- Expectations session
- Module Handbook
- What is problem solving?
- IDEAL problem solving model
- Problem of the week



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Thank You

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