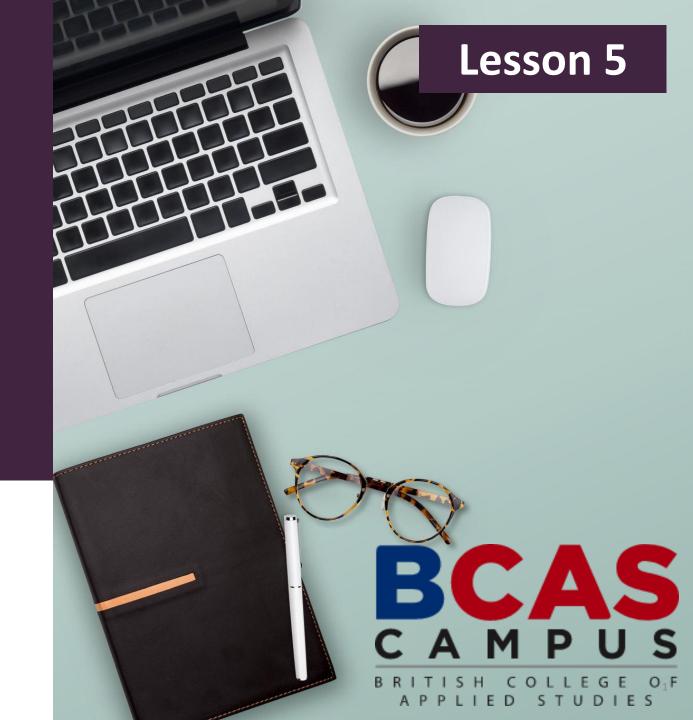
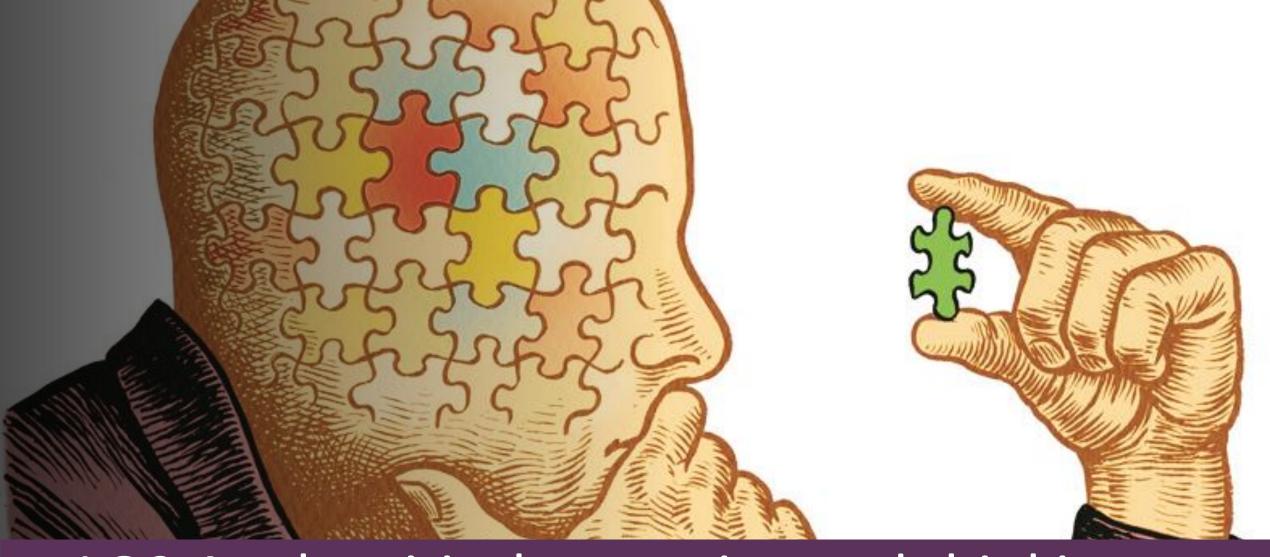
Unit 03 Professional Practice

HND in Computing

Assessor: Mafaza Nazar





LO2 Apply critical reasoning and thinking to a range of problem-solving scenarios



Specification of the problem

DEFINITION OF THE PROBLEM

- A situation, person, or thing that needs attention and needs to be dealt with or solved:
- Example
 - ✓ Financial
 - ✓ Health problems
 - ✓ Personal problems
 - ✓ Technical problems





Problem analysis and clarification

There are four basic steps in solving a problem:

- 1. Defining the problem.
- 2. Generating alternatives.
- 3. Evaluating and selecting alternatives.
- 4. Implementing and follow up the solutions.





1. Defining the Problem

 The key to a good problem definition is ensuring you deal with the real problem – not its symptoms.





1. Defining the Problem

Example:

 If performance in your department is poor, you might think the problem is with the individuals submitting work. However, if you look a bit deeper, the real issue might be a lack of training or an unreasonable workload.





Tools for Defining the Problem

- 5 Whys
- Appreciation
- Root Cause Analysis
- CATWOE
- SWOT





5 Whys

- The 5 Whys technique is true to this tradition, and it is most effective when the answers come from people who have hands-on experience of the process being examined.
- It is remarkably simple: when a problem occurs, you drill down to its root cause by asking "Why?" five times.
- Then, when a countermeasure becomes apparent, you follow it through to prevent the issue from recurring.



5 Whys cont..

Problem: Your client is refusing to pay for the leaflets you printed for them.

- 1. Why? The delivery was late, so the leaflets couldn't be used.
- 2. Why? The task took longer than we expected.
- 3. Why? We ran out of printer ink.
- 4. Why? The ink was all used up on a big, last-minute order.
- 5. Why? We didn't have enough in stock, and we couldn't order it quickly enough.





5 Whys cont...

Counter-measure: We need to find a supplier who can deliver ink at very short notice so that we can continue to minimize inventory, reduce waste, and respond to customer demand, in line with us Just in Time Add to My Personal Learning Plan approach.



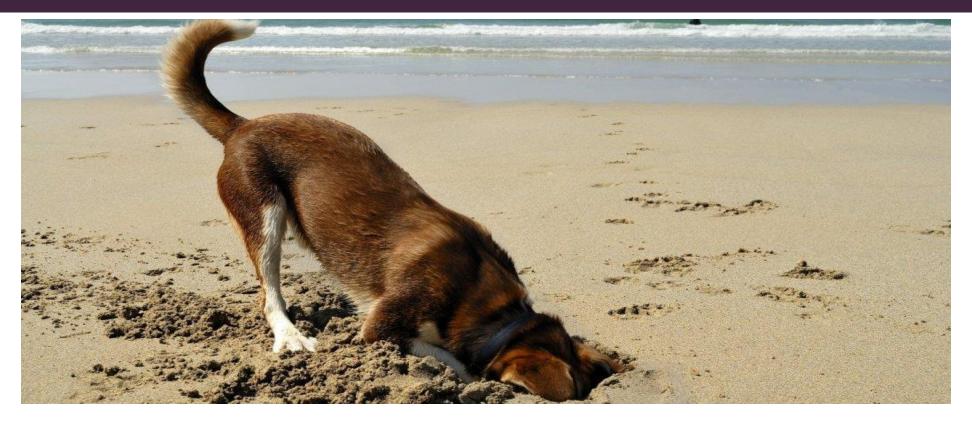
Activity 01

Use 5 Whys technique to find the root cause of the problem

- 1. A retail store is experiencing a significant drop in customer satisfaction
- 2. The restaurant is experiencing a decline in customer attendance



Appreciation (Situational)



Uncover hidden problems by asking "So What?"



Appreciation cont...

- Appreciation helps us uncover factors that we might have ordinarily missed, and it can be very useful for brainstorming Add to My Personal Learning Plan solutions to problems.
- It was originally developed by the military to help commanders gain a comprehensive understanding of any fact, problem or situation that it was faced with in battle. However, you can also apply it in the workplace.





Appreciation cont...

 Using Appreciation is easy. Starting with a fact, you first ask the question "So what?" – in other words, what are the implications of that fact? Why is this fact important?

 You then continue asking that question until you have drawn all possible conclusions from it.





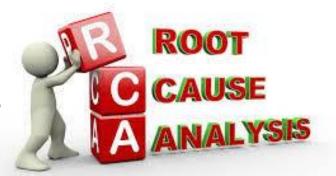
Root Cause Analysis (RCA)

- It helps people answer the question of why the problem occurred in the first place.
- It seeks to identify the origin of a problem using a specific set of steps, with associated tools, to find the primary cause of the problem, so that you can:
 - ✓ Determine what happened.
 - ✓ Determine why it happened.
 - ✓ Figure out what to do to reduce the likelihood that it will happen again.



Root Cause Analysis

- RCA assumes that systems and events are interrelated.
- An action in one area triggers an action in another, and another, and so on.
- By tracing back these actions, you can discover where the problem started and how it grew into the symptom you're now facing.



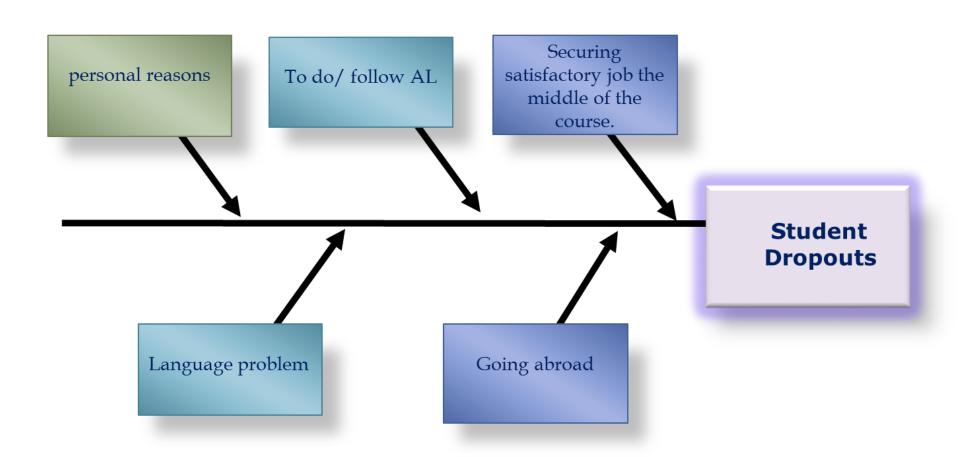


Root Cause Analysis

Do an RCA for the student dropout at BCAS Campus.



Root Cause Analysis





 CATWOE is a technique that provides a framework for defining and analyzing business stakeholder perspectives





Customers	Who are they, and how does the issue affect them?
Actors	Who is involved in the situation? Who will be involved in implementing solutions? And what will impact their success?
Transformation Process	What processes or systems are affected by the issue?
W orld View	What is the big picture? And what are the wider impacts of the issue?
Owner	Who owns the process or situation you are investigating? And what role will they play in the solution?
Environmental Constraints	What are the constraints and limitations that will impact the solution and its success?



As an example, a CATWOE could be developed to analyse the perspective of the operations director of a high-street clothes store. As discussed earlier, we would begin by considering the director's world view on the business. In this instance, the director feels the business will succeed if the focus is on designing and selling inexpensive fashionable clothing, because this is what is desired by the target market – young consumers who are interested in fashion. This director does not include the manufacture of the clothes in the world view. The transformation will be the core process required to fulfil this view, in this case to sell inexpensive, fashionable clothes.



Customer	Young customers who require fashionable clothes at affordable prices
Actors	Clothes designers, fashion buyers, sales staff, store managers
Transformation	Selling inexpensive, fashionable clothes
World view	The opinion that there is a desire from young consumers for inexpensive, fashionable clothes, and the company will be successful if we satisfy that demand
Owner	The board of the company
Environmental Constraint	The economic situation, market desire for inexpensive fashion, and consumer concern over fair trade issues.



Activity

Problem Scenario:

- Green Valley Hospital is experiencing several challenges, including long patient wait times, outdated medical equipment, and limited staff engagement. These issues are contributing to lower patient satisfaction and staff morale, ultimately impacting the quality of care provided.
- Do a CATWOE analysis



SWOT

 A SWOT analysis is a valuable framework that can help you evaluate your business from different angles. And discover new ways to grow and improve



SWOT

Internal

Strengths

Characteristics of a business that give it advantages over its competitors

Weaknesses

Characteristics of a business that put it at a disadvantage relative to its competitors

External

Opportunities

Elements in a company's external environment that allow it to formulate and implement strategies to improve performance

Threats

Elements in the external environment that could endanger the business, its profitability, or its competitive advantage(s)

How to Do a SWOT Analysis



Internal

Strengths

- · What do we do well?
- What have our customers or partners told us they like about us?
- In what areas do we outpace our competitors?
- What's unique about our business, products, or services?
- What assets do we own (Intellectual property, proprietary technology, capitol)?

Weaknesses

- What can we improve?
- What are our customers or partners dissatisfied with?
- Where do we fall behind our competitors?
- Where are we lacking in knowledge or resources?

Opportunities

- What emerging trends can we take advantage of?
- Which of our strengths might be valuable to potential partners?
- What adjacent markets might we tap into?
- Are there geographic locations with less competition?

Threats

- What is our competition doing?
- How could our weaknesses leave us vulnerable?
- What market trends are we unprepared for?
- What economic or political issues could impact our business?

External

Positive

Negative



SWOT Analysis

Do a SWOT analysis for yourself.



2. Generating alternatives

Look at your problems in different ways; find a new perspective that you haven't thought of before. Brainstorming, or rapid noting of alternatives no matter how silly, is an excellent discovery process.

Once you have listed or mapped alternatives, be open to their possibilities. Make notes on those that:

- need more information
- are new solutions
- can be combined or eliminated
- will meet opposition
- seem promising or exciting





3. Evaluating and selecting alternatives.

While evaluating alternatives, the managers must compare the alternative plans or decisions. For this, the manager must consider the quantitative and qualitative factors.

- Quantitative Factors: The quantitative factors are those factors that can be measured numerically. For e.g. Number of units sold, costs in rupees, etc. The quantitative factors are tangible in nature.
- Qualitative Factors: The manager must also consider the qualitative factors. The qualitative factors are intangible in nature for e.g. quality of labour force, customer satisfaction





4. Implementing solutions

Develop a plan for implementation.

Elements:

- Step-by-step process or actions for solving the problem
- Communications strategy for notifying stakeholders
- Where important or necessary, inform those who care for you and/or will be
 affected by the change. Prepare them as necessary about your decision
- Resource identification/allocation
- Timeline for implementation



Activities

Individual Activity: Students to analyse the problems that they discussed using one of the tools and present them.

Team Activity: each team is to do a self-research on solution methodologies and present it in the classroom.

Individual Activity (homework): Students to provide solutions to the problems that they identified in the session with use of one of solution methodology(s)

Individual Activity: student to evaluate the solutions given for the problems they identified in the session 8



Activity

A major bank has experienced frequent outages of its ATMs across multiple locations. These outages have led to customer dissatisfaction and complaints, as customers are unable to withdraw cash or perform other transactions. Your task is to perform a root cause analysis to identify why these outages are occurring and recommend corrective actions to prevent future occurrences.



Any Questions ??



Thank You!

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