

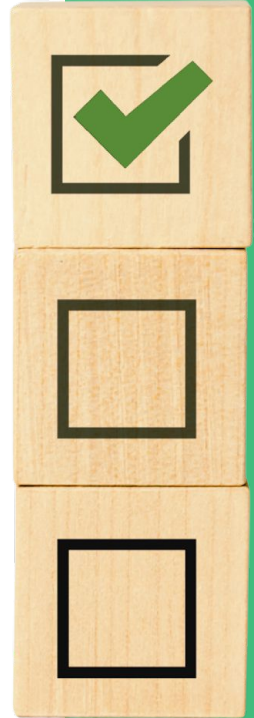


## Module 4: Critical Thinking


# Logical Thinking

# WIIFM

- Information or data?
- Verifying Information
- Constant vigilance!
- Organising Data
- Putting The Pieces Together



# Information or data?



## The Triple-Filter Test

Filter of truth:  
*Is it true?*

Filter of Goodness:  
*Is it good?*

Filter of usefulness:  
*Is it going to be useful?*

! TheMindsJournal

The Age Of  
ENLIGHTENMENT

## Let's break it down...

### Truth

Do I know for a fact that this information is true? Can I bet on it? Will I be able to prove it to anyone? Am I willing to compromise my reputation over this?

### Good

Does it benefit me or the other person? Will it make them or me a better person and evoke positive emotions? Will the situation of those involved improve?

### Necessary

By knowing this message, will that person's life or my life improve? Can that person take any practical action regarding this information or message? In what way does not knowing this information hurt or affect the other person?

## Fake News

Fake news is made-up stuff, masterfully manipulated to look like credible journalistic reports that are easily spread online to large audiences willing to believe the fictions and spread the word. — Drobnic Holan, 2016

- Fake News is designed to feed your hopes, fears, and biases
- Clickbait
- Share your experience!

# CRAAP

CRAAP is an acronym for Current, Relevant, Authoritative, Accurate, and Purposeful. Use the CRAAP Test to evaluate your sources.



Is this a responsible reporting, Mr Ram? Why skewed opinion to discourage people from getting vaccinated? The headlines in the front page of today's edition of 'The Hindu' flashes the vaccines are less effective for the Indian strains and cites interview with ICMR scientists who published their work. Read the small letters in the second line: "The vaccines produce only 50% antibodies but are still a potent tool against virus: experts". Wouldn't a reworded reporting such as, "Studies show vaccines are effective even to the potent Indian strains, though there is a reduction!" be forceful in telling the truth. No, you would not. You have a sinister agenda on hand.... It goes on to report that the scientists have stated 'a reduction of even 50% is not significant while 'a ten fold reduction', yes... the study also does not include T cell response! Scaring people during a pandemic may be the job of a vulture and sensational but does it speak well of a cherished tradition? Disgusting Ram, indeed disgusting.

7:33 AM

## Current

- Is the publication date clearly labeled?
- Is any information on the page outdated?
- Do the links to other sites still work?
- Is the site updated frequently or was the information just dumped and left on the Internet?

## Authority

- Check the URL domain (.edu, .gov, .org, .gov) for clues. Then ask yourself the following questions:
- Who is the author or producer of the website?
- What is the authority or expertise of the individual or group that created the site?
- How knowledgeable is the individual or group on the subject matter of the site?
- Are the author(s) qualifications and credentials listed?



## Accuracy

- If facts and figures are given, are they accurate and reliable?
- Are the sources for the information clearly listed?
- Can the sources be verified in another source?
- Are the facts consistent with other information you have found?

## Objectivity

- Is the information presented without bias?
- Does the author acknowledge their bias?
- Does the author express a particular point of view?
- Does the author write for their specific audience without unfairly slanting the information?
- Does the author avoid emotionally charged language used for the purpose of deceiving his or her audience?
- Does the author acknowledge other points of view and treat them fairly even though they may disagree with the point of view?


## Content/Coverage

- Is the topic thoroughly covered?
- Is the information on the site free, or is there a fee required to link to some or all of the information?
- What is the relative value of the website in comparison to the range of information already available on the topic?
- Is the information unique and useful, or repetitious?

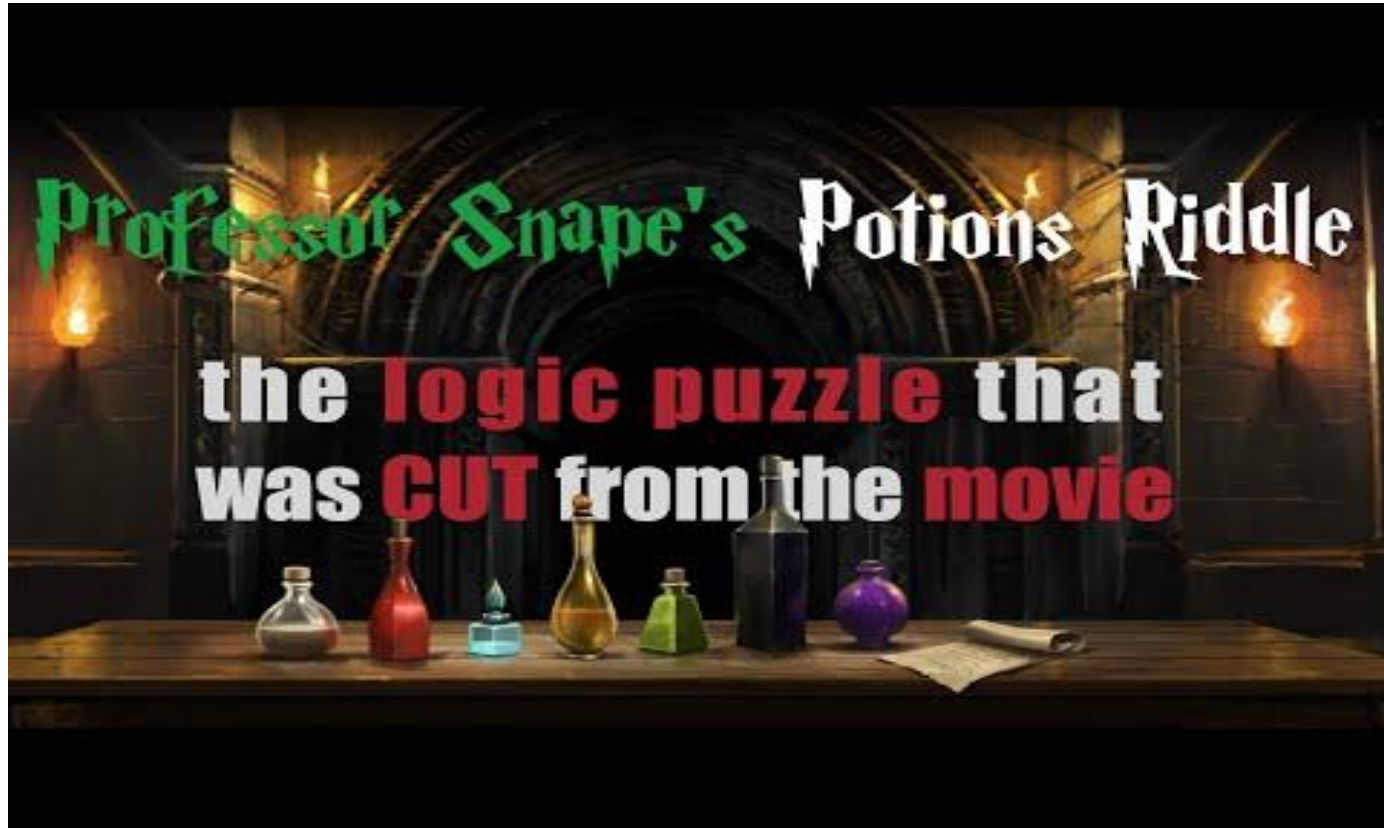
## Don't Believe Everything You See



# Test your logic!

							
Forward							
Back							
Poison							
Poison							
Poison							
Wine							
Wine							

## Magic? No, Logic!



## Riddle time!



## Organize Data

- Before you can organize data, collection of data is vital.
- After collecting data, organize the data you have gotten into categories, or organize them by sorting.
- Given the collected data, organize or sort them according to their names in alphabetical order.

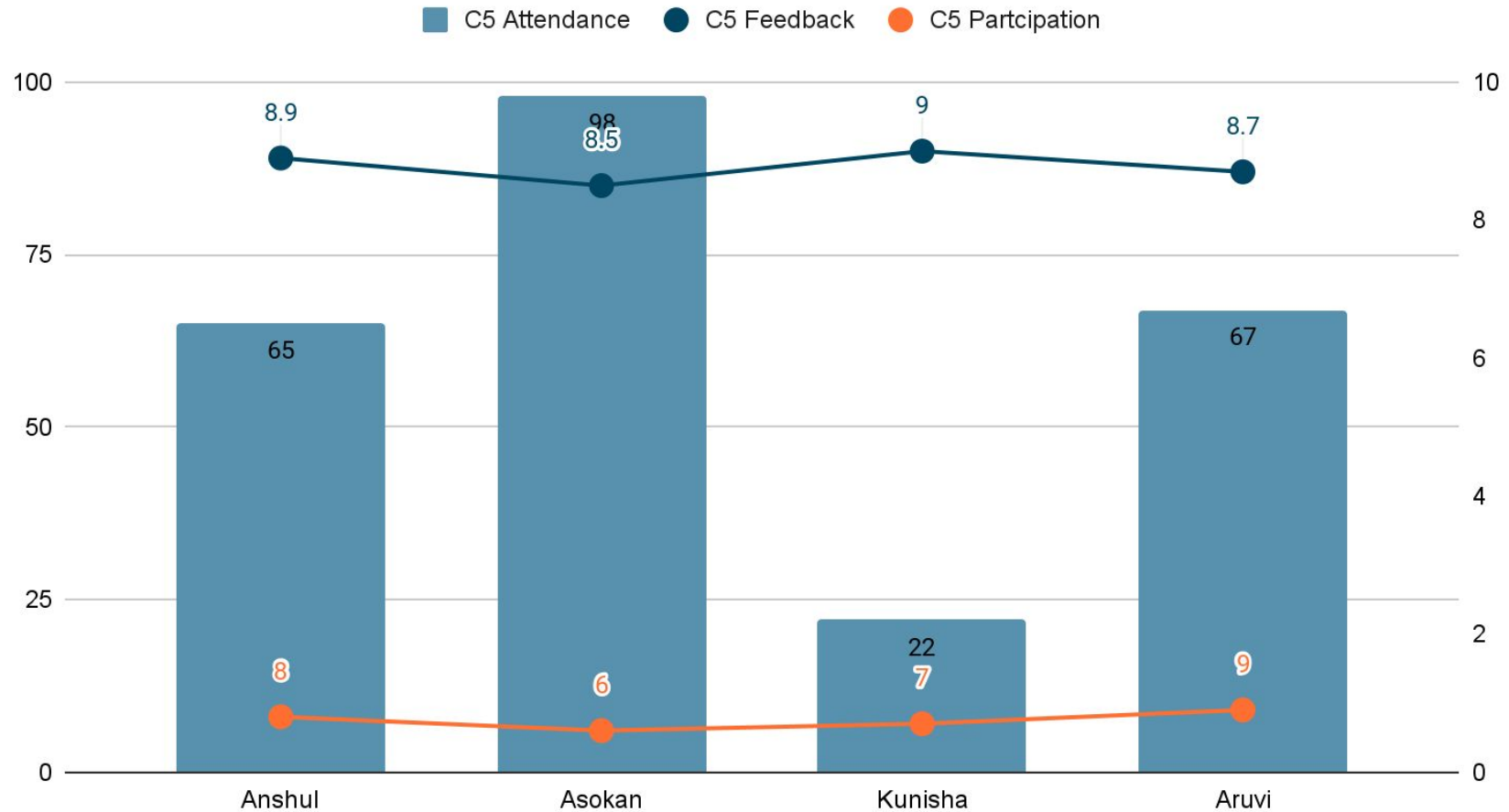


## Represent and Interpret Data

- Now that the collected data has been organized, we need to represent the organized data in a way that people will understand better.
- We can represent data by using charts or graphs.
- The common data representation types are bar graphs, pie charts, and line graphs.
- Now that we have a representation of our collected and organized data, we can now interpret the data and thus derive explanations from the interpretation.



## Cohort 5 Attendance and Feedback



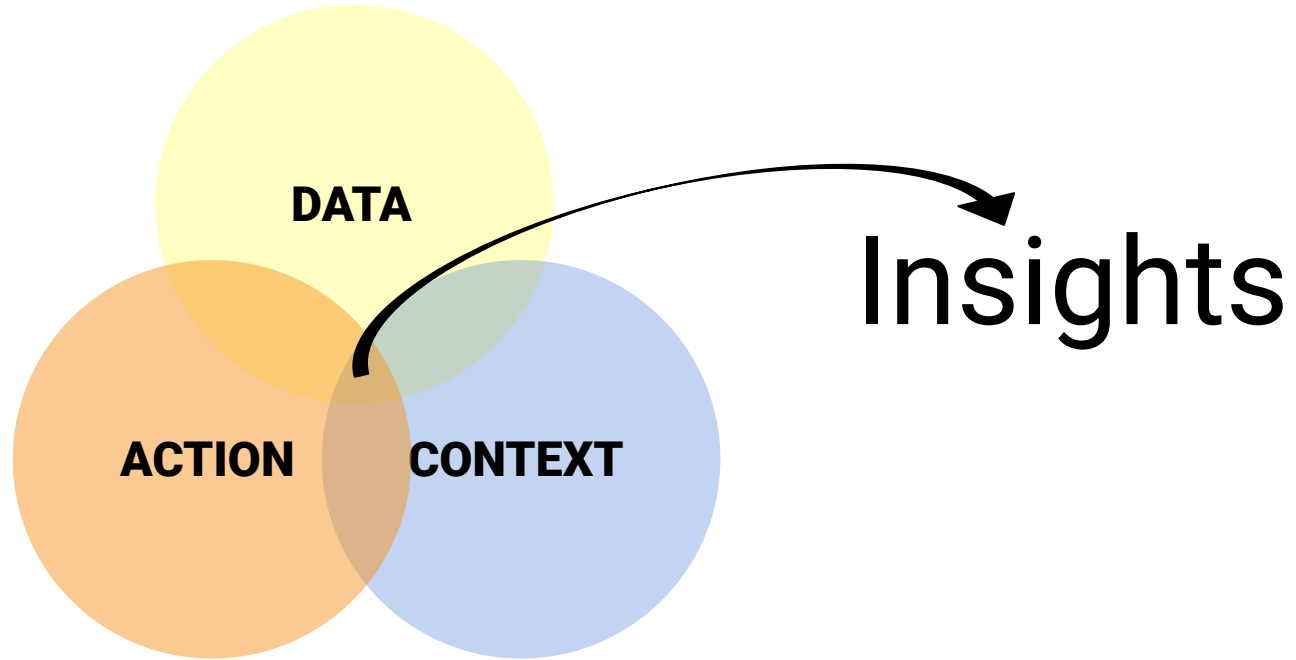
## Interpret Data

Now that we have a representation of our collected and organized data, we can now interpret the data and thus derive explanations from the interpretation.

## Turning Information Into Insights

- Measure the right things. You can't optimize what you don't measure.
- There is no one-size-fits-all solution.
- Ask the right questions to stakeholders. Go the extra mile to answer all of your stakeholders' questions.

# Objectivity



## Turning Information Into Insights

What are your insights based on the data collected below?

Student	Technical scores	Communication scores	Resume status	Interview status
Asokan	10	9	accepted	offered
Sphoorthy	8	10	accepted	offered
Kunisha	5	9	rejected	rejected
Anshul	9	6	accepted	rejected

# ACTIVITY

Imagine you are a TA for the WE Program, working under Kunisha. A spreadsheet of class data is shared with you.

In groups, create a slide deck to use in a meeting with your stakeholders showing them data, trends, and insights.



# Thank You



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