JURUSAN TEKNOLOGI INFORMASI

Critical Thinking & Problem Solving Course 02.

Critical Thinking Foundation

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Topics

1. Claims, Affirmations & Statements
2. Justification for Claims

1. Claims, Affirmations & Statements

- **Claim or Affirmation An expression that 'should' be true.**
  - **It can be in the form of speech, writing, or just a thought.**
- Not all claims are true.
  - Some are pure lies.
  - Some are caused by wrong beliefs.
  - There are also those who cannot be called right or wrong.
- Statement → The form of the claim is seen from the grammatical (linguistic) side.
  - A claim is a sentence in the statement form (declarative statement), not a question (interrogative), nor a command (imperative).
- Consider the following example sentences:
  - [A] Angola is bordered by Namibia.
  - [B] Dinosaurs are cold blooded animals.
  - [C] Foreign investors make too much profit.
- The three sentences above are claims which can be **judged** , true or false.
  - Claims are always in the form of statements.
  - Questions and commands are not claims because they cannot be judged as true or false.

Facts & Opinions

- Claims can generally be **divided into 2**: Those who express **facts** vs those who express **opinions** .

Discussion:

- Look again at the previous three sentences [A], [B], and [C]. They are all statement sentences, and they all make a claim.
- **Discuss** what significant differences each of these claims!

1. Claims, Affirmations & Statements
Facts & Opinions

- Fact →A statement that is absolutely true. From the previous three examples:
- Sentence [A] is a **fact**
  - It can also be said as a fact that is generally accepted.
  - All you have to do is open Google Maps and see the boundary between Angola and Namibia.
- Sentence [B] is a claim on a fact, but unlike [A], [B] is not been generally accepted.
  - There is no definitive evidence yet, but it has a solid basis.
  - Claims like this are just referred to as ' **beliefs** ' or 'things that are believed', have not become facts at least as long as factual evidence has not been found.
  - Scientists 'believed' dinosaurs were cold-blooded because all reptiles at this time were cold-blooded.
- Sentence [C] is a statement that is purely an **opinion** .
  - People's opinions can be different, some agree, some disagree, but it doesn't mean that one or both of them are wrong.
  - Depending on one's thoughts on, 'decent profit' and/or on the size of 'too much'.
- The first two sentences are **objective** while the last sentence is **subjective** .
  - Objective Right or wrong does not depend on people's thinking.
  - Subjective True or false depending on each individual.

- Claims as in [C] that reveal someone or something is good, bad, better, greedy, too rich, less prosperous, less handsome, too beautiful, etc., are also referred to as **Value Judgments**.
- The claim is an opinion based on the **amount of value** perceived by the opinion maker.
  - How pretty? How rich? The size of the 'level of beauty' and 'level of wealth', varies according to the perception of the individual who judges.
- Different from:
  - Claiming that dinosaurs were cold-blooded → It is not a **Value judgment**.
  - Claims that the **average** income **of** foreign investors **per** week **is greater** than domestic investors→ it is not Value Judgment.
- If the claim is made in words, too..., very..., severe..., extraordinary..., excessive..., then it will be a Value Judgments.
  - It will forever cease to be a 'belief', and will not become a fact.
  - Because people will always have different views.
- When making this kind of claim, use the words: 'in **my** opinion ...', ' **I** think...', 'in **my** opinion ...', ' **I** believe that...', and the like.

- **Predictions** are another type of claim → claims may be true or false because they occur in the future, or because they have not been verified.
  - Example: [D] There will be a thunderstorm in the next 24 hours.

- If the claim is made at 09.00 am today and tomorrow at 07.00 am a thunderstorm occurs, then the claim becomes true, but still **cannot be** called a fact.
  - Because at the time it was said/stated, the claim could **not** be proven.

- **Probability** → When a claim is uncertain, it can often be made based on a certain degree of probability.
- Example: You need to get 6 on 5 dice at once in a game in 2 rolls to win.
  - It's pretty safe if someone claims: "You won't win".
  - On average it takes 7776 tosses to get a 6 on all five dice (6^5).

- **Likewise when someone says to you after you've made your last throw (and lost):** "I knew you weren't going to win".
  - This is just a claim , and not a fact .
  - He is neither a shaman nor a time-traveler .
- **Therefore as a critical thinker , you should answer:**
  - “No, you didn't actually know that I was going to lose, you just predicted it right. Just that".

Hypothesis

- **Hyphotesys →** Claims that are **considered a fact** but are actually **probabilities with a very high degree**.
  - Generally accepted as a truth.

- Example: “A dart and an empty can if dropped from the same height and under ordinary atmospheric conditions, then the dart will reach the ground first.”
  - The claim is based on the observation that two objects when dropped from the same height will always reach the ground at the same time. At least until now.
  - Likewise, objects whose aerodynamic shape should first reach the ground because of the smaller air resistance.
  - And it makes sense to assume that his future will remain so.

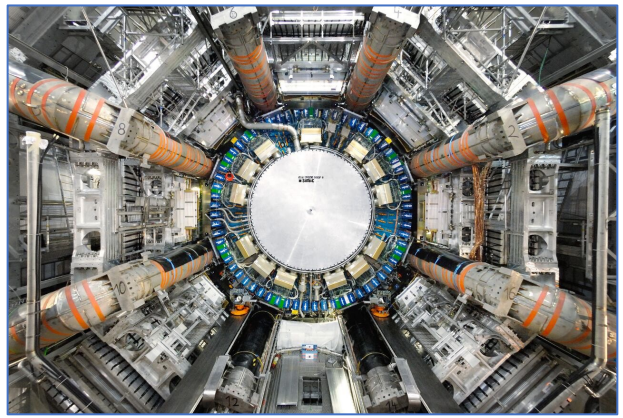
- However, this claim is still referred to as a hypothesis.
  - Not a sure thing /uncertain, absolute, obviously true.
  - Because we realize that the laws of physics may change in the far future, as well as in different worlds.

Hypothesis

- In the past there were many scientific beliefs that were initially very undoubted but nevertheless had to be revised because there were new discoveries.

- The most famous example:
  - The sun surrounds the earth. Rise every day from under the earth and walk in the sky.
  - It was believed by astronomers at the time, but later changed after the era of Nicolaus Copernicus.

- Recent example:
  - Albert Einstein claimed that no object is capable of moving beyond the speed of light.
  - In 2011 scientists working at the LHC discovered a particle called a neutrino capable of moving faster than light..



Recommendations

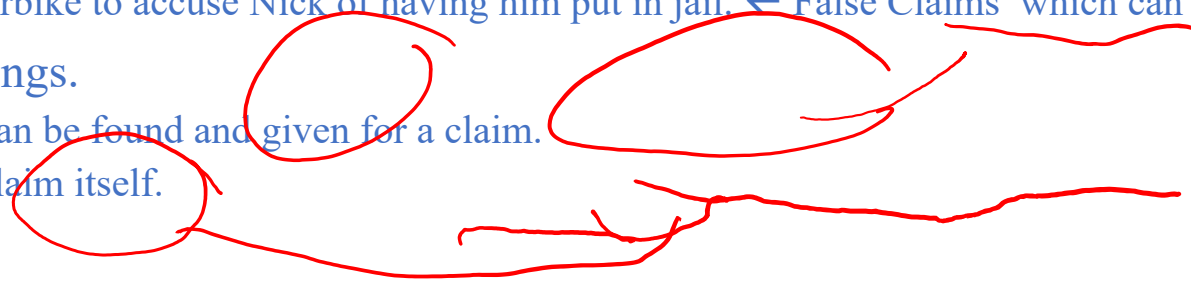
- **Recommendation** is also another form of claim. Example:
  - [E] Foreign investors' profits should be limited.
- Almost similar to claim [C], the difference is:
  - [C] is an observation. What the claim owner saw/felt
  - [E] is a claim about ***what should be*** done regarding a situation/situation.
- Similar to **Value Judgments**, recommendations cannot be said to be right or wrong.
  - 2 people, even those who agree with claim [C] could have different opinions on what to do.
  - 1 person can think: Yes, foreign investors' profits are too large, need to be limited.
  - 1 other person may also think: Yes, foreign investors' profits are too big, but there is no need to limit them.
  - Neither of them is really factually wrong.

2. Assessing Claims

- When a claim is made, especially when it is made in public, we tend to assume that the claim is true.
  - For example, when there is news of a plane crash, we will not necessarily assume the news is a lie just because we did not witness the incident ourselves.
- Likewise with predictions. While we know that predictions are not facts, we don't necessarily ignore them either.
  - This is natural and necessary in normal daily life.
- If we refuse to believe everything we are told, life will stagnate.
  - That is why everyone has a responsibility to speak the truth.
- But that doesn't mean we also have to be blind faith, aka believe in all things just like that.
  - There could be a false claim.
- Therefore we must always be open-minded and think critically in assessing a claim.

Justification

- False or true of claims can not always be known with certainty.
- When there is no certainty in a claim, at least we can say that a claim can or cannot be justified (accounted for).
  - If there is a strong basis, then the claim can be justified.
  - If not, then the claim cannot be justified.
- True claims cannot always be justified and sometimes vice versa, false claims can be justified.
  - **Example-1:** According to Vera, it was Nick who stole her motorbike, even though she didn't have any evidence but indeed Vera had not liked Nick for a long time. And after being investigated by the police, it turned out that it was Nick who stole. ← **right claim** which **can not be justified** .
  - **Example-2** : Nick was indicted in court for the theft of a motorbike based on the evidence found. However, after serving a sentence of 6 months, it is discovered that Vera lost her own motorbike to accuse Nick of having him put in jail. ← False Claims which can be **justified** .
- **Truth** and **Justification** are different things.
  - **Justification is** made on the grounds that can be found and given for a claim.
  - **Truth** or Falsehood is the property of the claim itself.



- We may never know the truth of a claim, but we can:
  - Collecting evidence that is deemed sufficient to call a claim justifiable (accountable)
  - And if the evidence obtained is not sufficient, then we can call a claim unjustified (cannot be justified).
- **Discussion:**
  - Look again at the example in the previous section: the claim that dinosaurs were cold-blooded. Often the following 2 facts are used to support the claim:
    - [A] Dinosaurs are reptiles.
    - [B] Modern reptiles such as snakes and lizards are all cold-blooded.
  - Are these two facts enough to justify the claim that dinosaurs were cold-blooded?

- The two facts presented do support the previous claim, but only partially.
- If you are a layman, you might say that this fact is enough to justify because maybe reptiles should now be similar to reptiles 70 million years ago. In fact:
  - It could be that the reptiles that once existed were cold and warm blooded, but the hot ones became extinct.
  - Warm-blooded species require more energy than cold-blooded ones.
- The two facts [A] and [B] do not necessarily turn the hypothesis into a fact.
  - Many scientists believe this is more likely than the opposite claims.
  - However, there is no definitive evidence to support or refute these claims.

Standard

- A claim, can be true or false.
- 'True' in this case means completely true. Nothing but the truth.
  - In assessing claims there is no concept of partially right, or partially wrong, or somewhat right, somewhat wrong.
- To justify or blame, it would be easier if there was a **standard** .
  - **Example:** A marathon is officially defined as a running race over a distance of 42.195 km.
- **Discussion:**
  - Let's say Katya has just finished a training run with a distance of 42 km and she says to her friend:
    - “[C] I just ran a marathon”.
  - Can Katya's claim be justified? Is there an element of 'truth' to this claim? Or is it completely wrong?

Standard

- Katya's claim is **not true** .
  - There is a difference of 195 meters from the standard marathon running.
- Is it possible to say "Almost true"?
  - No. Because the claim must be *entirely* true or false. There is no concept of partial truth.
- **But...,** we need to see the talking contest..
- If it's just a casual conversation, it would be an exaggeration to call Katya a **liar** .
- However, if the statement is *official* or official (for example after a real marathon), then the claim cannot be justified (cannot be justified).
  - Because it is not according to the standard marathon distance, although the difference is 'only' 0.195 km.

Complex Claim

- The lines, “Katya just ran a marathon” or “Cold-blooded dinosaur” are simple claims.
- The following are examples of complex claims:
  - [D] Katya just ran a marathon and covered the distance in less than 4 hours.
  - [E] Dinosaurs were reptiles, but they were warm-blooded.
  - [F] Sea level is increasing in many parts of the world because global warming is melting polar ice.
  - [G] Many areas of the world will soon sink if nothing is done to tackle climate change.
- A simple sentence when it becomes part of a complex sentence is referred to as a ' **clause** '. While words or phrases that express the relationship between clauses are referred to as ' **connectors** ',

2. Assessing Claim
Strong & Weak Claim

- Claims can be **strong** or **weak** .
- Strong claims are **more difficult to** justify than weak claims.
- A ' *strong' claim* is a claim that contains many points and compelling.
- A 'weak' claim is one that is more moderate, has less points and more measurable.
- Examples of (very) strong claims:
  - The entire world will soon sink beneath the surface due to the direct impacts of human-made climate change.
- Strong claims are much easier to attack or doubt.
  - Because it's easier to find the misstake.
- It will be easier to be held accountable if the above claim is changed to:
  - Some areas of the world could one day sink below sea level , and if that happens then human-made climate change could be one of the main factors causing it.

Generalization

- It is a widely enforced, and often universal, claim.
  - It is one type of bad claim.
- Example:
  - [i] Women are more able to solve problems than men.
- The above claim is a strong claim because it involves both men and women **as a whole** .
  - The claim is potentially unreliable.
  - It's enough to show just one man who can solve the problem better, then all his claims will be wrong.
- The opposite of general or 'whole' is 'particular'.
- Not a generalization if the statement:
  - [J] The women (in the female team), are more organized in their thinking than the men.
  - Spoken by a commentator at a contest

Question?

Thank You

Task

- 1. Give examples of stories or other scenarios where a claim is true but cannot be justified.
- 2. Give an example of a claim that you think are justifiable or definitely true.
- 3. Compare the following claims:
  - [A] Polar bears will become extinct in the middle of this century.
  - [B] The polar bear is an endangered species.
- One of the two claims above is stronger than the other. Which one is strong which one is weak, and why?

Outline

1. Argument
2. Identifying arguments
3. Analyzing arguments
4. Complex Arguments

1. Argument

- **Arguments → complex claims** used to **organize and express** certain types of **reasoning**.
  - It consists of two or more claims, one of which is a **conclusion**;
  - The other are **explanatory** reason.
- **A good argument** is one **whose conclusion follows from the reasons**, or is justified by the reasons.
- In practical terms, **arguments aim to persuade others**, or to satisfy themselves, that the claims they make are true.

Example

- Few hundred years ago it was generally **believed that the earth was flat**.
  - This is a natural belief because the earth's surface appears flat.
  - But people also observe (and are bewildered by the fact) that ships sailing away from land appear lower and lower, as if they were sinking, and seem to emerge again as they approach land.

- Some argue - from these observations that the Earth's surface is unlikely to be flat but curved. They drew this conclusion because if the Earth were flat, a ship would only appear to be smaller and smaller until it was too small to be seen.

- Based on previous information, arguments can be made:
  - [1a] The ships appeared to sink out of sight as they sailed away. The earth cannot be flat.
  - [1b] The Earth is unlikely to be flat because ships appear to sink out of sight as they sail away from land.
  - [1c] The Earth cannot be flat. The ships appeared to sink out of sight as they sailed away.

Discussion:

What is the difference between the arguments above?

Arguments Form

- In each of the previous examples the argument is stated and/or arranged differently. **But it's still the same argument, for the same reasons and the same conclusions.**
- Since there are many ways in which arguments can be expressed**, it is easier to have one standard form for assigning arguments.**
- The way to do this, both in logic and critical thinking, **is to place excuses and separate them from conclusions with horizontal lines.**
- Lines function the same as words like 'because' or 'So' in natural language reasoning. We can set this simple argument as follows:
- [1]

  The ships appeared to sink out of sight as they sailed away

  ---

  The Earth cannot be flat.

- [1a], [1b] and [1c] are just three of the many ways to express[1] in plain language.

2. Identifying Arguments

- Before an argument can be **reconstructed and/or evaluated**, it must first be established that the sentence is an argument. This can be more difficult, especially if the argument is bad.
  - In a good argument, the conclusion corresponds to the reason.
  - A bad argument doesn't fit: reason doesn't justify conclusions.
  - That's what makes it such a bad argument.

- **To decide that a text is an argument by trying to understand the intent of the author of the argument**, whether one claim is the conclusion, and another is the reason.

- The text below is not an argument.
-
    - [1] Photographs from space show the Earth's surface curving. Curvature does not indicate when photos were taken from ground level.

- To determine that [1**] is not an argument is to ask question whether one of the two claims supports the other**, or states a reason for accepting the other. You can also change the pattern of the sentence like this:
    - [1a] Photographs from space show the Earth's surface curving. Therefore curvature does not indicate when the photo was taken from ground level.
    - [1b] Curvature does not indicate when photos were taken from ground level, so photographs from space show the Earth's surface curving.
    -
- Does Text [1], [1a], and [1b] make sense? If it doesn't make sense, it's not an argument.

3. Analyzing Arguments

- In Critical Thinking we use the same basic way of **formalizing arguments** as logicians have used for centuries: **we list the reason (or place), and then the conclusion**. If we use R for 'reason' and C for 'conclusion' we can say that all arguments have a form:

  R1, R2, . . . Rn / C

- **The reasons and conclusions in standard arguments are claims**. In theory there is no limit to the number of reasons that can be given for conclusions. In practice the number is usually between one and a half dozen.

3. Analyzing Arguments

- Before you can respond critically to an argument, by evaluating it or by giving a counter-argument, **you must have a clear and accurate interpretation or analysis**, of what the reason is. There's no point in challenging an argument if you misunderstand or misrepresent it.
- The **simplest types of arguments** have one or two reasons followed by conclusions, and there is no other content other than this.
- In practice, this arguments do not really need to be analyzed, because the structure is already quite clear. However, we'll start with a simple example.

3. Analyzing Arguments

- Here's an example of everyday reasoning. Which one might use to persuade others to hurry.
- [1] Trains won't leave until 4:24 a.m., but it can take 40 minutes to get to the station, if traffic is bad. Now it's 3.30. We have to get to the station in ten minutes to make sure we can get on the train.
- How does this argument look in standard form?

  R1 Trains will depart at 4:24 p.m.

  R2 Takes 40 minutes to get to the station

  R3 is now at 3:30

  _____

  We have to get to the station in 10 minutes.

3. Analyzing Arguments

- Note that in [1] there are **no argument indicators**, such as 'therefore', 'so' or 'because'. That's because nothing is needed. It is clear which claim is the conclusion: since R1, R2 and R3 then the speaker claims C, and not the other way around.

- In argument[1] The reasons are **interdependent**. The train time relates to the time it takes to get to the station and the present time that justifies the conclusion.

- If any of these three reasons turn out to be unreasonable, then that argument will fail. For example, if the train does not depart until 4:24, then the other two, alone, will not establish the need to depart at 3:40.

Argument Structure

- Since R1, R2, and R3 are interrelated / interdependent , structurally arguments can be described as:

Argument Structure

- In comparison, from [1] see the next argument.
  - [2] Short flights may be cheap, but train travel makes much more sense to choose from. Airlines are responsible for ten times the carbon emissions of rail travel per passenger/km, and twice as much stress. What's more, the train takes you to the heart of the city, not to an airport far from the city..
  -
- If it is written its standard form
-
  - R1 Flights are responsible for ten times the carbon emissions of rail travel per passenger/km
  - R2 Flight causes twice as much stress
  - R3 trains take you to the heart of the city, not to an airport far from the city

  ---

  - Short flights may be cheap, but train travel makes a lot more sense to choose from.

- In case [2] there is no interdependence. Each offers separate reasoning for conclusions.

Argument Structure

- Because the reasons (R1, R2, and R3) are not interdependent, the structure of the Argument[2] can be described as being
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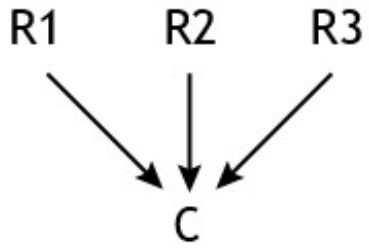


Mixed Arguments

- **Try to rewrite the following arguments in standard form,** and explain their structure in words or through diagrams:

> [3] Rajinder cannot be trusted to keep secrets. He was the only person beside me who knew about Jed and Jill getting engaged. I haven't said a word to anyone, but now the news is all around college. And he spread the story about Jill that I told him.

Mixed Arguments

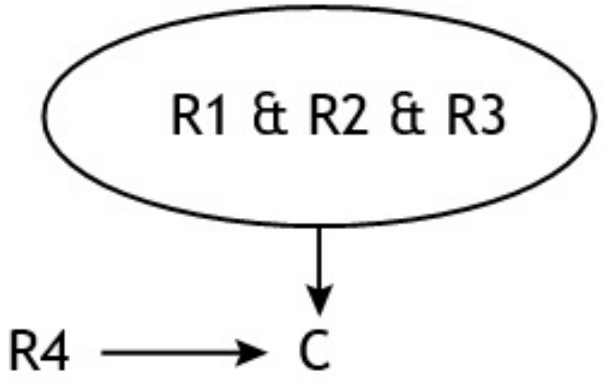
- Again the first sentence is a conclusion, but this time it is supported by four or five reasons (depending on how you choose to analyze it).
-
    - R1 Rajinder is the only person beside me who knows about Jed and Jill getting engaged
    - R2 I haven't said a word to anyone,
    - R3 Now the news is around college
    - R4 Rajinder spread the story about Jill that I told him

    ---

    - Rajinder can't be trusted to keep secrets

Mixed Arguments

- Since the reasons (R1, R2, and R3) are connected, and R4 is not directly related, the structure of the Argument[3] can be described as:



4. Complex Arguments

- We already know how reason - independently or in combination - supports conclusions. In each case, there is only one conclusion.

- But in some arguments there may be more than one conclusion. One or more reasons can lead to intermediate conclusions, which then lead to a primary or final conclusion. Intermediate conclusions along with the reasons for their supporters form sub-arguments. There may be two or more sub-arguments in the larger argument.

- Complex Arguments → Arguments with > 1 Conclusion

4. Complex Arguments

- [1] In some parts of the world, cars are still driven on the left side of the road. This can result in accidents involving drivers from other countries who are accustomed to traffic being on the right. Pedestrians are also at risk of looking in the wrong direction before crossing the road. Cities would be safer, if in all countries the rules were the same. Therefore, since the countries where the driver remains on the left are in the minority, those countries must change to the right.
-
- Analysis of the standard form:
- In some parts of the world, cars are still driven on the left side of the road.
    - R1 In a country where a car is driven on the left side of the road can result in an accident involving a driver from another country.
    - R2 Pedestrians are also at risk of looking in the wrong direction before crossing the road
    - _____
    - C1(IC) Cities will be safer, if in all countries the rules are the same
    - R3 countries where drivers remain on the left are in the minority
    - _____
    - C2 (MC) countries where the driver on the left must change to the right.

4. Complex Arguments

- From the standard form we have sub-arguments - (R1&R2) → C1 - and the main argument, C1 → C2. This means that C1 serves as a conclusion (from one argument) and a premise (from another). Therefore we call C1 the intermediate conclusion (IC), and the C2 the main conclusion (MC - or simply C).
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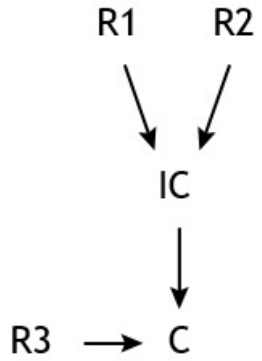


Assigment

1. Give examples Simple arguments with 3 reasons and 1 conclusion
2. Create standard form and diagrams of simple arguments you create
3. Read the following text:
4.

We should not rush into undertaking a large-scale recycling project without carefully weighing the pros and cons. Recycling the materials used may in the long run prove to be uneconomical. The costs of collecting and sorting waste, plus the costs of the recycling process itself, often make the final product more expensive than producing the same product from raw materials. This additional cost has to be paid by someone: if it is not a consumer, then it is the taxpayer in the form of a subsidy. Recycling is also not always the best solution environmentally. The high level of energy required to treat waste can cause pollution. It can also add to global warming.

4. Create standard form and diagrams of the complex arguments above

Topics

1. Conclusion
2. Reason
3. Assumption
4. Weaknesses and Mistakes

CONCLUSION

- KBBI - A conclusion is a **decision** that is obtained based on a **deductive or inductive way of thinking** from a particular discussion or idea
- In general, the a conclusion is **a statement taken briefly from the overall results** of the discussion or analysis. In other words, the conclusion is **the result of a discussion**.

Conclusion

- The most important **function of argument analysis** identify **conclusions**
- If an **argument** is short enough, **conclusions** can be **drawn right away**. But if the argument is a **complex argument**, the conclusion can often be wrong, incorrectly drawn for the wrong reasons or misunderstood the direction of the argument
- The conclusion of an argument is often indicated by the word '**so**' or its equivalent. Or the conclusion can be followed by '**because**' (or its equivalent), to show that reasons are given to support the previous claim
- In the absence of such linguistic clues – and often there are none – **we have to look at the claims themselves to decide if any of the arguments exist**, and if so, which parts of them reveal the conclusions.

Example of Conclusion

- From the results of the discussion about the Design of Inventory Information Systems at PT Angin Ribut, **a conclusion is drawn as follows**:

    1. With this information system, the Company can more easily present information regarding the sale and procurement of goods
    2. This information system facilitates the sale and procurement of goods at PT Angin Ribut, both in data search, procurement and sales processes as well as in making reports

Steps to Make a Conclusion

- **Listen carefully to the contents** of the information presented
- **Interpreting** the subject
- **Selecting** and **determining** the main idea
- **Rewrite** the **main idea** in your own sentence briefly
- **Restate** the **contents** of the information that has been **written clearly and coherently**

- A good conclusion is a conclusion that contains the **entire content of the text discussed in effective and easy-to-understand sentences.**

- The content of the conclusion itself is a summary of the contents of the **text by containing information briefly, clearly, and concisely**.

Characteristics of a Good Conclusion

- Use **good** and correct **language**.
- Use language that is **easy to understand**.
- Contains the **subject of discussion**.
- Using **general statements** from the previous fact sentences.
- Comparing two different things but **still showing similarities** in certain aspects,
- **Not convoluted**.
- It is **factual** and **clear**.

Discussion

Arguments :

Parents naturally tend to think that they know better than their children because they are older and more experienced. As a result they assume that their judgments and decisions are the right ones. But in

many ways, children are much smarter than their parents think. They often exhibit problem-solving skills that their parents did not have; and they are more courageous in their thinking, simply because they are less afraid of making mistakes. Parents should pay more attention to what their children say, and let them make more decisions for themselves. Apart from anything else, this will help relieve a lot of unnecessary family tension

Discussion

Which of the following best expresses the main conclusion of the argument?

In addition to making a choice, give a brief reason why that choice is the right one, and why the other one is not.

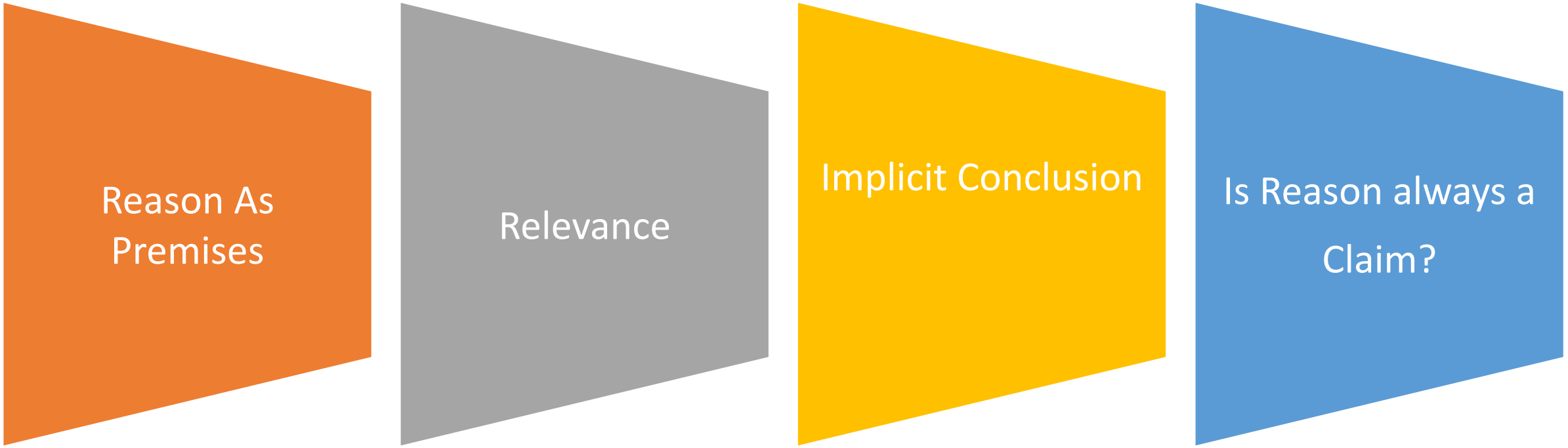
A. Children are smarter than their parents think, and often exhibit problem-solving skills that their parents lack.
B. Parents naturally assume that their judgments and decisions are the right ones.
C. Children don't mind making mistakes like their parents do.
D. Parents should pay more attention to what their children are saying, and let them make more decisions.
E. Family tension is reduced when parents listen more to what their children think.

REASON

- Reason is an **expression that tells us why something is the way it is**. The main function of reason is to explain.
- There are two meanings of the word 'reason', depending on whether it is found in the argument **supporting the conclusion, or in the explanation**.
- However, the line between argument and explanation is **often blurred**, making interpretation difficult at times.

Example sentences with reasons:
Sea levels are rising worldwide as global warming is melting polar ice caps.

Reason


Reason As Premises
Relevance
Implicit Conclusion
Is Reason always a Claim?

- Reason as Premise → A premise is a claim that follows a conclusion. So a really good argument is one whose premises are true and the conclusion follows. That is why, in a good argument, the premise is the reason to believe, or agree with the conclusion
- Relevance → For one thing, premises cannot be said to be reasons for a conclusion unless they are relevant to the conclusion. Suppose someone tries to argue that:
  - Seawater is salty, so Mars is a planet!
  - The premise of this argument is true, and so is the conclusion. But knowing that seawater is salty gives no reason to believe that Mars is a planet, because the two claims are completely unrelated

Argument

The defendant was at his desk in the office at 3pm. but no one reported seeing him again until after 4 o'clock. That was quite a long time to get to the crime scene and back.

- Implicit Conclusion → The above statement is leading to some form of accusation. If some conclusion (or inference) is drawn from the narrative, it will make it into an argument. For example, it can lead to the conclusion that the accused had the time, or opportunity, to commit the crime. However, this is a very clear conclusion to draw that it does not need to be stated explicitly. The implicit conclusion: The defendant had the opportunity to commit the crime.

- Is the reason always a claim? → In one word, yes. This does not mean that reason is always a grammatical statement (declarative sentence). As in the discussion of claims. claims can be made using rhetorical questions or even imperative sentences.
  - For example, 'Did anyone see the defendant at his desk between 3 and 4 pm?' and take it as a claim.

Discussion

Discuss the following pairs of sentences. Can one sentence in each case be understood as an excuse for the other? Explain

- The increase in taxes is not a determinant of vote winning. In the last four decades, every time the government raises taxes, their poll ratings have dropped significantly.

ASSUMPTION

- Assumptions are assumptions that are accepted as a basis and as a basis for thinking because they are considered true. Assumptions are usually new in the form of **guesses, estimates, predictions and forecasts**.
- People make assumptions because they want to know, ask, predict or suspect about something that will or has happened.
- Some assumptions can be stated openly and some are not. But basically assumptions can be conveyed even if it is implied in speech.
- The premise of many arguments is an assumption. In other words, the conclusion of an argument often rests on one or more assumptions. If an assumption can be proven to be false or unreasonable, then the argument must be judged to be unsound.
- Calling a claim or belief an assumption means it is **questionable, open to challenge, or requires justification**. This does not mean that it is always wrong or unacceptable.

Example

- **The technology to detect counterfeit money has improved in recent years. Unfortunately, the forger's skills and techniques more than compensated. So we will see the number of counterfeit money in circulation continues to increase.**

Explanation

Conclusion (C) is in the last sentence; and the single premise (P) is the previous sentence. (The first sentence is just context.) So, that is to say, C follows from the explicit claim that forgery increases faster than detection. But what is the basis for that claim? nothing was given. Maybe true, of course. But both may be wrong or exaggerated. In the end we have to take P on belief if we are to accept the conclusion. It is in that sense that we treat P as an assumption, not a fact.

Discussion

In the days before the advent of the internet, publishers and booksellers effectively controlled what people read, because very few would-be writers could afford the high financial risks of self-publishing. The internet has changed all that, with Facebook and Twitter leading the way. Now anyone can express their views publicly, or distribute information, with little or no cost, and without the tyranny of censorship. Those who fear the internet must therefore stop worrying about its dangers and recognize that, on balance, its growth is in the public interest, not against it. Because, almost in an instant, it has given us freedom of information on a scale never before imagined.

Analysis of the argument so that it is clear about the reasons and conclusions. Then decide which of the following is the main underlying but not stated assumption. (There is only one correct answer.)

A. There are several reasons to be concerned about the internet.

B. Freedom of information is in the public interest

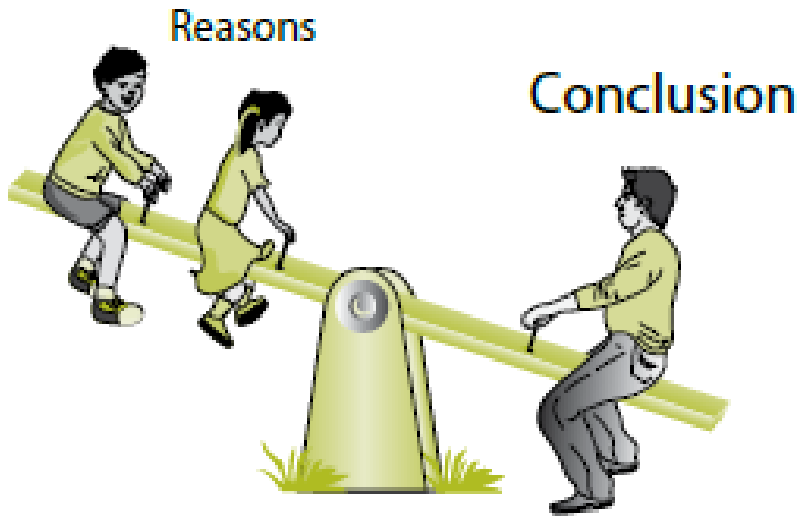
C. The internet is here to stay.

D. Everyone has the right to express their opinion.

MISTAKES AND DISADVANTAGES

- A good argument is one that satisfies two rules.
- Rule 1 is that **the reason must be true**. We cannot trust arguments based on false premises. If we know that one or more of the premises are false, we must reject the argument.
- Rule 2 is that the **conclusion must follow recognizable reasons**, meaning that if all the reasons are true, the conclusion cannot be false.

A useful metaphor for an argument is the seesaw, or arm of balance, with Reason on one side and Conclusion on the other. **If the conclusion is too strong**, or overemphasized, **the reason may not have sufficient 'weight' to support it. For an argument to make sense, the reason must be greater than the conclusion.**



- An argument is said to be false if the reasons or reasons given are not true, or do not sufficiently support the conclusion.
- Some of the common drawbacks are:
    - maintain certain points into general conclusions
    - relying too much on anecdotal evidence, or past experience
    - incorrect correlation for a cause

Question?

Task

1. Read the following narration

When the city becomes congested with traffic, the usual solution is to charge a fee to take the car to the city center. This works, but it is wrong to do so, as it discriminates in favor of those who can easily afford to pay. The underprivileged in society are punished so that the rich can enjoy the luxury of clean streets. Therefore the cost of ubiquitous congestion must be eliminated. A system of car use rationing should be introduced instead, allowing each driver to enter the city only once or twice per week. Then everyone gets the same benefit..

Make the Main Conclusion on the narration above.

2. Try to find – or make – an argument whose conclusion is supported by explaining reasons (or reasons)

3. Do you agree or disagree with the following statements – and why?

"Each argument must make at least one unstated assumption"