Charta | LESSON NOTES

# Flaw questions: name the mistake

Verbal Reasoning

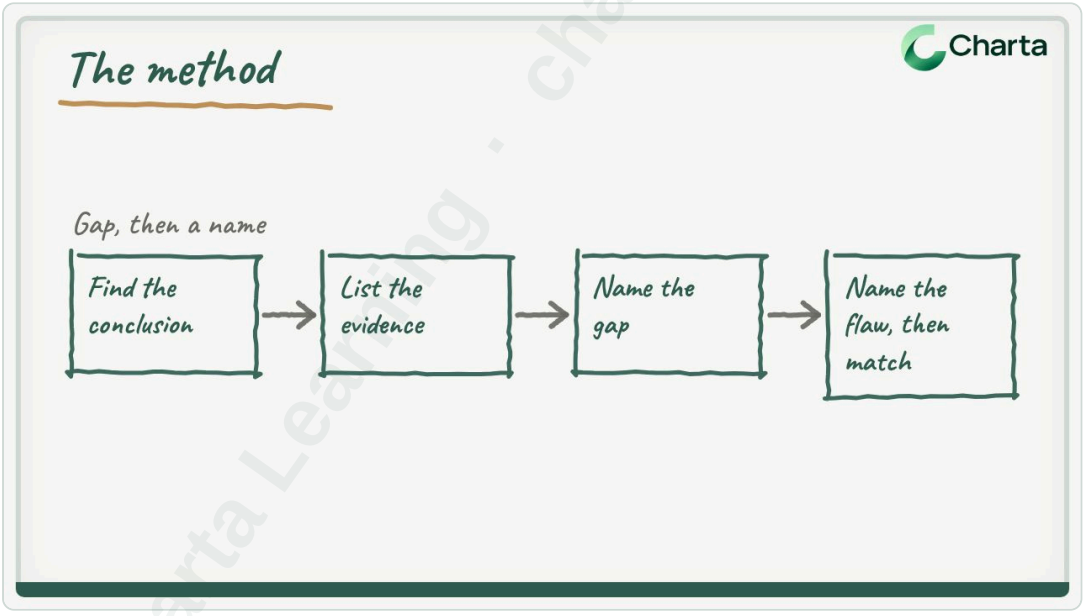
## 1 What the question asks

- Question line: describes a flaw in the reasoning
- Describe the mistake; do not fix it
- The answer must be something the author really did
- Did they do it? Is it what breaks the argument?

IN THE LESSON

- The question line says something like, which of the following most accurately describes a flaw in the argument, or, the reasoning is most vulnerable to criticism on the grounds that it does what?
- You are not asked to fix the argument or to weaken it with a new fact.
- You are asked to describe what the author did wrong.
- That has one big consequence.
- The right answer must describe something the argument actually does.
- Many wrong choices describe a mistake that sounds plausible, but that this author never makes.
- So for each choice, ask two questions: did the author really do this, and is it the mistake that breaks the argument?

## 2 The method




IN THE LESSON

- Here is the method, and the first three steps are the ones you know.
- Step one, find the conclusion.
- Step two, list the evidence.
- Step three, name the gap between them.
- Step four is new: give the gap a name from the list of classic flaws on the next slide, such as a biased sample, or part to whole.
- Then look for the choice that describes that flaw, even if it uses very different words.
- Why name the flaw first?
- Because the choices are abstract, and if you read them without a name in your head, several will sound right.
- With a name, you are matching, not guessing.

Charta Learning · charta-learning.com

© Charta Learning · charta-learning.com · For your own study. Please do not share or redistribute.

## 3 Six classic flaws

*Name the flaw, then find it in the choices*

| Plain name | In short |
|---|---|
| Biased sample | not typical |
| Part to whole | each, so all |
| Survivors only | failures missing |
| Correlation to cause | together, so cause |
| Association to action | change one, change both |

**IN THE LESSON**

- Here are six classic flaws, each with a plain name.
- A biased sample: the evidence comes from a group that is not typical of the group in the conclusion.
- Part to whole: what is true of each part is assumed true of the whole, or the other way round.
- Survivors only: the evidence looks only at the ones that survived, and ignores the ones that failed.
- Correlation to cause: two things go together, so one is said to cause the other.
- Association to action: because two things go together, changing one is assumed to change the other.
- And reversing a rule: if A then B is taken to mean if B then A.
- You will meet four of these in this lesson.

## 4 The traps in the wrong choices

- A mistake this author did not make
- A different worry, not the reasoning
- Too strong: only, never, entirely
- The wrong flaw: small sample, not survivors only

**IN THE LESSON**

- Now the traps.
- The first is the mistake the author did not make: a choice that describes a real flaw, but not one in this argument.
- For example, it says the survey is too old, when the passage never says when it was taken.
- The second is a different worry: a reasonable concern, such as cost, that is not about the reasoning from evidence to conclusion.
- The third is too strong: it says the author assumes something is the only cause, or never happens, when the argument needs much less.
- The fourth is the wrong flaw: a real flaw type, like a small sample, when the real problem is a different one, like survivors only.

## 5 Question 1: the online survey

- An online survey posted on the Westbrook Public Library's website found that 85 percent of respondents favour moving more library services online. Therefore, most residents of Westbrook favour moving more library services online.
- Which of the following most accurately describes a flaw in the argument?

**IN THE LESSON**

- Question one is an easy one.
- It is short, so read it with me slowly, and think about who answered the survey.
- An online survey posted on the Westbrook Public Library's website found that eighty five percent of respondents favour moving more library services online.
- Therefore, most residents of Westbrook favour moving more library services online.
- The question: Which of the following most accurately describes a flaw in the argument?
- Name the gap, then name the flaw.

Charta Learning · charta-learning.com

© Charta Learning · charta-learning.com · For your own study. Please do not share or redistribute.

## 6 Question 1: who answered?

*Westbrook: an online survey; most residents favour online*

| | | |
|---|---|---|
| **Conclusion** | most residents favour it | **all residents** |
| **Evidence** | online survey answers | **website users** |
| **Gap** | website users are not typical | **the gap** |
| **Flaw** | a biased sample | **the name** |

**IN THE LESSON**

- The conclusion: most residents of Westbrook favour moving more library services online.
- The evidence: eighty five percent of people who answered an online survey on the library's website favour it.
- The gap is between the people who answered and the residents as a whole.
- Who answers a survey on a library's website?
- People who already use the library online.
- They are likely to favour online services more than residents in general.
- So the sample is not typical of the group in the conclusion.
- The flaw has a name: a biased sample.
- Predict a choice that says the conclusion about all residents comes from a group likely to differ from them.

## 7 Question 1: the five choices

- A. It treats the absence of opposition to a proposal as proof of support for it.
- B. It relies on survey results that are too old to reflect current opinion.
- C. It presumes, without offering any evidence, that the library could afford to move more of its services online in the next few years.
- D. It draws a conclusion about all residents from a group that is likely to favour online services more than residents in general do.
- E. It assumes that residents who favour online services never visit the library in person.

**IN THE LESSON**

- Here are the five choices.
- Choice A.
- It treats the absence of opposition to a proposal as proof of support for it.
- Choice B.
- It relies on survey results that are too old to reflect current opinion.
- Choice C.
- It presumes, without offering any evidence, that the library could afford to move more of its services online in the next few years.
- Choice D.
- It draws a conclusion about all residents from a group that is likely to favour online services more than residents in general do.
- Choice E.
- It assumes that residents who favour online services never visit the library in person.
- Which one describes a biased sample?

Charta Learning · charta-learning.com

© Charta Learning · charta-learning.com · For your own study. Please do not share or redistribute.

## 8 Question 1: test each choice

*Flaw: a biased sample, website users*

| | | |
|---|---|---|
| **A: silence taken as support** | support was asked directly | **not made** |
| **B: the survey is too old** | no date is given | **not made** |
| **C: can the library afford it?** | cost, not what residents want | **different worry** |
| **D: a group likely to differ** | website users favour online | **the flaw** |
| **E: they never visit in person** | visits are not mentioned | **not made** |

**IN THE LESSON**

- Choice A says the author treats silence as support.
- But the survey asked people directly, so the author did not do this.
- Choice B says the survey is too old, yet the passage never says when it was taken.
- Another mistake not made.
- Choice C is about whether the library can afford the change.
- That may be a fair worry, but the conclusion is about what residents want, so it is not the flaw in this reasoning.
- Choice D matches our name: the author draws a conclusion about all residents from a group likely to favour online services more than residents in general.
- A biased sample.
- Choice E is about in-person visits, which the argument never mentions.
- The answer is D.

## 9 Question 2: the quartet

- Every musician in the newly formed Kelso Quartet has won a major solo competition. Therefore, the Kelso Quartet will be an outstanding ensemble.
- Which of the following most accurately describes a flaw in the reasoning above?

**IN THE LESSON**

- Question two is also an easy one, and very short, so read it with me slowly.
- Ask yourself what is true of each member, and what is claimed about the group.
- Every musician in the newly formed Kelso Quartet has won a major solo competition.
- Therefore, the Kelso Quartet will be an outstanding ensemble.
- The question: Which of the following most accurately describes a flaw in the reasoning above?
- What does a quartet need that a soloist does not?

## 10 Question 2: each, so all?

*Kelso Quartet: every member a solo winner*

| | | |
|---|---|---|
| **Conclusion** | an outstanding ensemble | **the group** |
| **Evidence** | each won a solo competition | **each member** |
| **Gap** | great parts, great whole? | **the gap** |
| **Flaw** | part to whole | **the name** |

**IN THE LESSON**

- The conclusion: the Kelso Quartet will be an outstanding ensemble.
- The evidence: every musician in it has won a major solo competition.
- The evidence is about each member on their own.
- The conclusion is about the group playing together.
- Is a group of excellent soloists bound to be an excellent group?
- Not at all.
- Playing in a quartet needs listening, blending and timing together, which a solo competition does not test.
- Think of a team of star players who never pass the ball.
- The flaw has a name: part to whole.
- Each part has a quality, so the whole is assumed to have it.
- Predict a choice that says exactly that.

Charta Learning · charta-learning.com

© Charta Learning · charta-learning.com · For your own study. Please do not share or redistribute.

## 11 Question 2: the five choices

- A. It assumes that musicians who win solo competitions do so mainly because of luck.
- B. It treats a single performance by the quartet as typical of all of its later performances.
- C. It assumes that a group must have a quality just because each of its members has it.
- D. It confuses the cause of the musicians' success in competitions with an effect of that success.
- E. It draws a conclusion about all string quartets from evidence about the members of only one quartet.

**IN THE LESSON**

- Here are the five choices.
- Choice A.
- It assumes that musicians who win solo competitions do so mainly because of luck.
- Choice B.
- It treats a single performance by the quartet as typical of all of its later performances.
- Choice C.
- It assumes that a group must have a quality just because each of its members has it.
- Choice D.
- It confuses the cause of the musicians' success in competitions with an effect of that success.
- Choice E.
- It draws a conclusion about all string quartets from evidence about the members of only one quartet.
- Which one says part to whole?

## 12 Question 2: test each choice

*Flaw: part to whole*

| | | |
|---|---|---|
| **A: wins were mainly luck** | the author assumes skill | **not made** |
| **B: one performance as typical** | no performance is described | **not made** |
| **C: group has members' quality** | each, so the whole | **the flaw** |
| **D: cause confused with effect** | no causal claim is made | **wrong flaw** |
| **E: about all quartets** | only this quartet | **not made** |

**IN THE LESSON**

- Choice A says the author assumes the wins were mainly luck.
- The author assumes the opposite, that the wins show real skill.
- Choice B talks about a single performance by the quartet, but no performance is described.
- Choice C matches our name: it assumes a group must have a quality just because each of its members has it.
- Part to whole.
- Choice D is a real flaw type, mixing up cause and effect, but this argument makes no causal claim about the competitions, so it is the wrong flaw.
- Choice E says the author concludes something about all string quartets, but the conclusion is only about this one.
- The answer is C.

## 13 Question 3: the oldest companies

- Of the fifty oldest companies still trading in the port city of Haldane, forty-six were owned and run by members of a single family for most of the twentieth century. A business columnist concludes that family ownership helps a company to survive for a very long time.
- Which of the following most accurately describes a flaw in the columnist's reasoning?

**IN THE LESSON**

- Question three is a medium one.
- Read it with me.
- Of the fifty oldest companies still trading in the port city of Haldane, forty-six were owned and run by members of a single family for most of the twentieth century.
- A business columnist concludes that family ownership helps a company to survive for a very long time.
- The question: Which of the following most accurately describes a flaw in the columnist's reasoning?
- Ask yourself which companies are missing from the evidence.

© Charta Learning · charta-learning.com · For your own study. Please do not share or redistribute.

## 14 Question 3: who is missing?

*Haldane: forty-six of the fifty oldest firms were family run*

| | | |
|---|---|---|
| **Conclusion** | family ownership aids survival | **the claim** |
| **Evidence** | most survivors family run | **survivors** |
| **Missing** | the firms that failed | **the gap** |
| **Flaw** | survivors only | **the name** |

**IN THE LESSON**

- The conclusion: family ownership helps a company to survive for a very long time.
- The evidence: forty six of the fifty oldest surviving companies in Haldane were family run for most of the last century.
- Now ask, who is missing?
- The companies that did not survive.
- Suppose almost every company in Haldane a century ago was family run.
- Then most survivors would be family run too, simply because most companies were, even if family ownership did nothing for survival.
- Or suppose thousands of family firms failed.
- We cannot tell, because the evidence looks only at the winners.
- The flaw has a name: survivors only.
- Predict a choice that says the columnist ignored the family companies that failed, or how common family ownership was.

## 15 Question 3: the five choices

- A. It draws a general conclusion from only fifty companies, which are too few to show that family ownership helps survival.
- B. It takes the survival of these family-run companies through the twentieth century as showing that they will go on surviving.
- C. It reasons that long survival must have caused the family ownership, rather than family ownership having helped the companies survive.
- D. It looks only at companies that survived, without asking how many family-run companies failed or how common family ownership was among all companies.
- E. It generalises from companies in a single port city to companies everywhere.

**IN THE LESSON**

- Here are the five choices.
- Choice A.
- It draws a general conclusion from only fifty companies, which are too few to show that family ownership helps survival.
- Choice B.
- It takes the survival of these family-run companies through the twentieth century as showing that they will go on surviving.
- Choice C.
- It reasons that long survival must have caused the family ownership, rather than family ownership having helped the companies survive.
- Choice D.
- It looks only at companies that survived, without asking how many family-run companies failed or how common family ownership was among all companies.
- Choice E.
- It generalises from companies in a single port city to companies everywhere.
- Two choices name real flaw types.
- Only one names the right one.

Charta Learning · charta-learning.com

© Charta Learning · charta-learning.com · For your own study. Please do not share or redistribute.

## 16 Question 3: test each choice

*Flaw: survivors only, the failed firms are missing*

| | | |
|---|---|---|
| **A: only fifty, too few** | more survivors would not fix it | **wrong flaw** |
| **B: they will go on surviving** | no forecast is made | **not made** |
| **C: survival caused ownership** | ownership came first | **not made** |
| **D: only survivors, no failures** | the missing firms | **the flaw** |
| **E: one city to everywhere** | the gap stays within one city | **wrong flaw** |

**IN THE LESSON**

- Choice A says fifty companies are too few.
- That names a real flaw, a small sample, but adding more survivors would not fix this argument.
- The trouble is who is missing, not how many.
- Wrong flaw.
- Choice B says the author predicts the companies will keep surviving, but no forecast is made.
- Choice C says the author thinks survival caused family ownership, but the ownership came first, so that is not the reasoning.
- Choice D matches our name: it looks only at companies that survived, without asking how many family firms failed or how common family ownership was.
- Survivors only.
- Choice E, one city to everywhere, is another real flaw type, but the survivors problem would remain even within the city.
- The answer is D.

## 17 Question 4: the cholesterol drug

- A new drug lowers blood cholesterol by a large amount. High cholesterol is strongly associated with heart attacks. A doctor argues that patients who take the drug will therefore suffer fewer heart attacks.
- Which of the following most accurately describes a flaw in the doctor's reasoning?

**IN THE LESSON**

- Question four is a hard one.
- It is short, so read it with me slowly.
- The argument sounds sensible, which is exactly what makes it hard.
- A new drug lowers blood cholesterol by a large amount.
- High cholesterol is strongly associated with heart attacks.
- A doctor argues that patients who take the drug will therefore suffer fewer heart attacks.
- The question: Which of the following most accurately describes a flaw in the doctor's reasoning?
- Look closely at the words associated with.

## 18 Question 4: going together, or causing?

*A drug lowers cholesterol; high cholesterol goes with heart attacks*

| | | |
|---|---|---|
| **Conclusion** | fewer heart attacks on the drug | **the claim** |
| **Evidence** | drug lowers cholesterol | **fact** |
| **Evidence** | high cholesterol with attacks | **together** |
| **Flaw** | association to action | **the name** |

**IN THE LESSON**

- The conclusion: patients who take the drug will suffer fewer heart attacks.
- The evidence: the drug lowers cholesterol a lot, and high cholesterol is strongly associated with heart attacks.
- Associated means the two go together.
- It does not tell us that lowering cholesterol, by this drug, will reduce heart attacks.
- Perhaps something else, such as diet or genes, raises both cholesterol and the risk of a heart attack.
- Then lowering cholesterol with a pill might leave the risk unchanged.
- Or the drug might lower cholesterol and have some other effect on the heart.
- The flaw has a name: association to action.
- Predict a choice that says the doctor assumes that because the two go together, lowering one with this drug must reduce the other.

Charta Learning · charta-learning.com

© Charta Learning · charta-learning.com · For your own study. Please do not share or redistribute.

## 19 Question 4: the five choices

- A. It assumes that high cholesterol is the only cause of heart attacks, so that lowering it must remove the risk of them entirely.
- B. It overlooks that some patients with low cholesterol also suffer heart attacks, which would show cholesterol is not the whole story.
- C. It assumes that because high cholesterol is associated with heart attacks, lowering cholesterol by this particular drug must reduce heart attacks.
- D. It assumes that patients will take the drug regularly for as long as it takes heart attacks to fall.
- E. It assumes that the drug's benefits for the heart outweigh any harm it may do elsewhere in the body.

IN THE LESSON

- Here are the five choices.
- Choice A.
- It assumes that high cholesterol is the only cause of heart attacks, so that lowering it must remove the risk of them entirely.
- Choice B.
- It overlooks that some patients with low cholesterol also suffer heart attacks, which would show cholesterol is not the whole story.
- Choice C.
- It assumes that because high cholesterol is associated with heart attacks, lowering cholesterol by this particular drug must reduce heart attacks.
- Choice D.
- It assumes that patients will take the drug regularly for as long as it takes heart attacks to fall.
- Choice E.
- It assumes that the drug's benefits for the heart outweigh any harm it may do elsewhere in the body.
- Watch for choices that are too strong.

## 20 Question 4: test each choice

*Flaw: association to action*

| | | |
|---|---|---|
| **A: the only cause of attacks** | contributing is enough | **too strong** |
| **B: low cholesterol attacks too** | exceptions are allowed | **not made** |
| **C: associated, so lowering helps** | together is not cause | **the flaw** |
| **D: patients take it regularly** | not the real gap | **different worry** |
| **E: benefits outweigh harm** | only heart attacks are argued | **different worry** |

IN THE LESSON

- Choice A says the doctor assumes high cholesterol is the only cause of heart attacks.
- That is too strong.
- The doctor needs only that cholesterol plays a part.
- Choice B says the doctor overlooks heart attacks in people with low cholesterol.
- But a strong association already allows exceptions, so this is not a mistake the doctor makes.
- Choice C matches our name: it assumes that because high cholesterol is associated with heart attacks, lowering it with this drug must reduce them.
- Association to action.
- Choice D, whether patients take the drug regularly, is a fair worry but not the gap in the reasoning.
- Choice E, harm elsewhere in the body, is about overall benefit, while the doctor argues only about heart attacks.
- The answer is C.

Charta Learning · charta-learning.com

© Charta Learning · charta-learning.com · For your own study. Please do not share or redistribute.

## 21 Accurate and quick

- Question line first: hunt for the mistake
- Name the gap, then the flaw
- Translate abstract choices into plain words
- Did the author really do this?
- Fix it: would the argument be repaired?

**IN THE LESSON**

- Some habits that keep you accurate and quick.
- First, read the question line first, so you read the argument hunting for a mistake.
- Second, name the gap, then give it a plain name from the list: biased sample, part to whole, survivors only, correlation to cause, association to action, reversing a rule.
- Third, translate each abstract choice into plain words before judging it.
- Fourth, for each choice ask: did the author really do this?
- If not, cross it out at once.
- Many choices fail this simple test.
- Fifth, if two choices name real flaws, ask which one, if fixed, would repair the argument.
- That one is the answer.

## 22 What the four questions taught

- Biased sample: website users
- Part to whole: soloists and a quartet
- Survivors only: the failed firms are missing
- Association to action: lowering by a drug

**IN THE LESSON**

- Look back at the four flaws.
- In question one, people who answer a website survey are not typical residents: a biased sample.
- In question two, great soloists do not guarantee a great quartet: part to whole.
- In question three, looking only at the companies that survived hid the ones that failed: survivors only.
- In question four, cholesterol going with heart attacks did not show that lowering it with a drug would help: association to action.
- And in every question, at least two wrong choices described mistakes the author never made.
- Asking, did the author really do this, is the fastest way to clear the choices in a flaw question.

Charta Learning · charta-learning.com

© Charta Learning · charta-learning.com · For your own study. Please do not share or redistribute.

## 23 Quick check

1. A choice names a serious mistake the author never makes. Answer?
   **Answer:** No: the flaw must be one the author made.
2. Most famous authors wrote every morning, so that leads to fame. Flaw?
   **Answer:** Survivors only: the unknown authors are missing.
3. Every brick is light, so the wall is light. Flaw?
   **Answer:** Part to whole.

**IN THE LESSON**

- A quick check.
- Pause after each question.
- Question one.
- A choice describes a mistake that sounds serious, but the argument never does it.
- Can it be the answer?
- The answer is no.
- The flaw must be something the author actually did.
- Question two.
- A study of famous authors finds that most wrote every morning, so writing every morning leads to fame.
- Name the flaw.
- The answer: survivors only.
- The study ignores the many authors who wrote every morning and never became famous.
- Question three.
- Every brick in a wall is light, so the wall is light.
- Name the flaw.
- The answer: part to whole.
- What is true of each part need not be true of the whole.

## 24 Recap: the flaw method

- Conclusion, evidence, gap
- Give the flaw a plain name
- Did the author really do it?
- Name the trap in each wrong choice

**IN THE LESSON**

- Let us recap.
- Find the conclusion, list the evidence and name the gap.
- Then give the gap a plain name from the classic flaws: biased sample, part to whole, survivors only, correlation to cause, association to action, or reversing a rule.
- Translate each abstract choice into plain words, and ask whether the author really made that mistake, and whether it is what breaks the argument.
- Name the trap in every wrong choice: a mistake not made, a different worry, too strong, or the wrong flaw.
- Practise this on every flaw question until naming the flaw takes you just a few seconds.

Summary notes for the Charta whiteboard lesson. Figures are from the lesson's made-up examples.

Charta Learning · charta-learning.com

© Charta Learning · charta-learning.com · For your own study. Please do not share or redistribute.