

GAM · Research Strategies — Strategy & Tricks

Map the study in five boxes, then pick the option that claims exactly what the design can support — no more, no less.

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The rules of the game

Every Research Strategies item is a short passage about a study — a survey, an experiment, a batch of interviews — carrying three or four questions. The passage **defines the terms it tests**. Nobody wants your textbook recited; they want you to read a design carefully and refuse to claim more than it supports. That is the whole game.

Researchers ask whether feedback frequency affects essay quality. An inference is a conclusion drawn from evidence; it may not add what the evidence cannot carry. Ninety students at one college were randomly assigned to weekly or monthly feedback, and their essays were marked blind.

Four moves, every time: **the question** · **a definition it will test you on** (inference) · **the design** (randomly assigned, weekly vs monthly) · **the measurement** (essay marks, graded blind). Nothing outside those four belongs in an answer.

Exam facts About 60 questions in 90 minutes — roughly **90 seconds each** — passages shared between questions, four options, **no negative marking**. A blank scores exactly like a wrong answer, so you always answer.

The vocabulary, as the exam uses it. The *tell* column is how you spot each concept inside a passage in five seconds.

Concept	What it means	Tell inside a passage
Independent variable (IV)	What the researcher sets	“assigned to”, “given”, “either ... or”
Dependent variable (DV)	What is measured afterwards	“recorded”, “scored”, “number of ...”
Experimental vs control group	Treatment vs the usual, nothing or a placebo	Two groups, one difference
Random sampling	Chance decides who enters — buys generalisation	“drawn at random from the register”
Random assignment	Chance decides which group — buys causation	“a coin toss decided”, “randomly allocated”
Correlation	Two things move together; cause not shown	“associated with”, “tended to”
Confounding variable	A third factor that could explain the link	Groups differ in more than the IV

Concept	What it means	Tell inside a passage
Internal validity	Can this design claim a cause?	Assignment, control group, blinding?
External validity	Do results transfer beyond this sample?	"50 nurses at one hospital" — small <i>and</i> narrow
Construct validity	Does the measure capture the concept it names?	"the items mostly ask about ..."
Reliability	Does the measure give consistent results?	Same score twice; raters agree
Operationalisation	A concept turned into something countable	"stress was measured as ..."
Qualitative vs quantitative	Words and themes vs numbers and counts	Interviews vs scores
Cross-sectional vs longitudinal	One snapshot vs the same people over time	"in March" vs "at ages 8, 12 and 16"
Blinding & placebo	The condition is hidden; a placebo is the inert stand-in	"neither nurse nor patient knew"
Hypothesis & falsifiability	A prediction a result could contradict	beware claims nothing could refute

The pair everyone mixes up Random sampling is the front door: who gets in. **Random assignment** is the corridor: which room they go to once inside. A study can have either, both or neither — check for them separately.

The rule that decides more items than any other: **correlation is not causation**. If nobody manipulated anything, "associated with" is the honest verdict, and any option saying "causes", "improves" or "leads to" is reaching.

Five ways the same passage gets asked

Passages repeat; stems rotate. Name the variant from the stem alone and you know which box of your map to read from.

Variant	The stem sounds like	What wins
Identify-the-variable	"What is the dependent variable?" "Which group is the control?"	Point at the map: set = IV, measured = DV
Spot-the-flaw / confound	"Strongest objection ...", "Why is the conclusion unsafe?"	Find the difference between groups that isn't the IV
Which-design-fits	"To show that X <i>causes</i> Y, the researcher should ..."	Match the verb: cause → assign; describe → survey; over time → longitudinal
Interpret-the-result	"The finding suggests ...", "How should the measure be described?"	Use the passage's own definitions; stay with the numbers given

Variant	The stem sounds like	What wins
Which-conclusion-follows	"The safest conclusion ...", "Best supported ..."	The option with the fewest added assumptions

Underneath sit three kinds of thinking: **definition-application** (rows 1 and 4 — reuse the passage's own words), **which-design-fits** (row 3), **what-the-text-implies** (rows 2 and 5 — how far the evidence reaches). The last pair carries most medium and hard items, and is where a confident wrong answer feels best. Give it ten extra seconds.

Map the study: five boxes, forty seconds

Stem and options first, then five boxes. About forty seconds, and every passage fills them — even the ones that pretend to be about theory.

1. **Read the stem, skim the options, then the passage.** Ten seconds. You learn what is at stake — a variable, a flaw, a design, a conclusion — and the passage becomes a search, not a story.
2. **Who?** Sample size and source. "200 March borrowers at one library" — note the narrowness; it decides what you may generalise.
3. **What was manipulated?** Whatever the researcher set ("assigned to 20 or 40 minutes") is the IV. If nothing was set, the study is observational and causal options are already dead.
4. **What was measured?** The outcome — recall, marks, completion. That is the DV; conclusions must be about *this* measure, not a cousin of it.
5. **How were groups formed?** Random assignment, self-selection, or pre-existing groups (small vs large firms). Only the first supports "causes".
6. **What was compared?** Group vs group, before vs after, subgroup vs subgroup. A conclusion that compares something the study never compared is wrong.

Forty volunteers are randomly allocated to revise with either flashcards or re-reading for 30 minutes, then sit the same ten-question quiz.

Map: who = 40 volunteers · manipulated = revision method (IV) · measured = quiz score (DV) · formed = random assignment · compared = flashcards vs re-reading. Causal language is allowed — but only about quiz scores, in these volunteers.

Now hold each option against the map. The right one *describes* it. Wrong ones add a box the passage never filled — a cause with no manipulation, a population with no sampling, a measure nobody took, or a fact that is true in the world but absent from the text.

How to save time A passage usually carries three or four questions. **Map it once**, on the first, and reuse the boxes: 40 seconds once, not 40×4 .

Shortcuts that are actually safe

- **No manipulation, no causation.** Box 2 empty? Cross out every option with "causes", "raises", "leads to" or "proves". That usually kills two before you have thought at all.
- **The option that repeats the passage's definition wins.** If the passage defines an inference as a conclusion drawn from evidence, the right option paraphrases that sentence. Item writers test reading, not improvisation.
- **Extreme words are red flags.** "Proves", "always", "all", "never", "permanently", "must". Social science rarely earns them. Read the option before you kill it — but expect to kill it.
- **Fewest added assumptions.** Between two survivors, prefer the one that needs nothing the passage didn't say: "72 of 100 respondents" beats "most students".
- **"Not supported" beats "disproved".** When a prediction fails, the correct option says it was not supported under these conditions. Options that bury the theory forever are wrong.

Speed: read the stem first, then hunt

Ninety seconds a question sounds tight until you notice passages are shared: a passage plus three questions is allowed **four and a half minutes**. Take under three and bank the rest.

Seconds	Do
0–10	Read the first question's stem and skim its options. Now you know which box matters.
10–50	Read the passage once, filling the five boxes. Underline IV, DV and how groups were formed.
50–70	Decide. Cross out the overclaimers first, then choose between survivors.
Each later question	Stem → the box it needs → decide. Locate, don't reread. 30–45 seconds.

When the stem says “dependent variable”, your eyes go straight to the measurement sentence and skip the recruitment paragraph entirely.

What to avoid Rereading the whole passage for every question. It feels thorough; at roughly 30 wasted seconds a question, that is half an hour of your 90 minutes.

Traps the item writers love

- **Reversed variables.** An option names the outcome as the IV: “the number of words recalled was manipulated”. Set things come first in time, measured things last. If you can't say what was *set*, you haven't mapped.
- **Sampling swapped for assignment.** “Randomly selected” says nothing about which group they joined; a random sample that then self-selects into treatment still cannot support a causal claim.
- **Generalising beyond the sample.** Fifty nurses at one hospital do not become “health workers nationwide”. Match the population in the option to box 1, word for word.
- **Reliability dressed as validity.** A scale that gives the same wrong answer twice is reliable and invalid. A 0.9 test–retest correlation says nothing about measuring the right thing.
- **The outside-knowledge trap.** “Larger samples reduce error” is true, and usually irrelevant. The only question is what *this* passage supports; a textbook truth with no hook in the text is the most tempting distractor in the family.
- **Subgroup used to erase the whole.** A link that vanishes in one subgroup does not mean “no effect”; it means the relationship may depend on something. Say “depends”, never “nothing”.
- **Stuck at 60 seconds?** Stop weighing, start deleting: kill causal verbs the design can't support, then options naming people the study never sampled. Take the survivor with the softest verb — guesses are free.

Worked examples: easy → medium → hard

Run the five-box map, then the overclaim cross-out, and watch how few options survive.

Identify the variable EASY · target 45s

What is the dependent variable in this study?

A researcher asks whether background music affects how many words students recall from a list. Sixty volunteers are randomly assigned to study the list in silence or with instrumental music. Afterwards each writes down every word they remember.

- A. Whether music was playing during study
- B. The number of words each student recalled
- C. The sixty volunteers
- D. The random assignment to conditions

Steps

1. Box 2 — what was set? Silence vs music: the IV. A is out.
2. Box 3 — what was measured afterwards? Words recalled: the DV.
3. C is the sample, D the assignment method — neither is a variable.

Answer: B. A is the independent variable; C and D are the sample and the procedure, not variables.

The safest conclusion EASY · target 50s

Which conclusion is directly supported by the survey?

A city library surveys 200 adults who borrowed a book in March; 140 say they would use a longer Sunday opening time. The library reports this to the council.

- A. Most adults in the city want longer Sunday hours
- B. 70% of the surveyed March borrowers said they would use longer Sunday hours
- C. Longer Sunday hours will increase borrowing
- D. Sunday opening always improves library use

Steps

1. Box 1 — who? 200 March borrowers, not the city. A overreaches the sample.
2. Box 3 — a stated preference, not future borrowing. C predicts an unmeasured outcome; D adds “always”.
3. B keeps the figure (140 of 200 = 70%), the sample and the measure as stated.

Answer: B. A generalises past the sample; C claims an effect nobody measured; D adds “always” to the same claim.

Spot the confound MEDIUM · target 70s

What is the strongest objection to the head teacher's conclusion?

To test whether a new revision app improves exam marks, a school lets students choose whether to use it. The 80 who chose it scored on average 9 points higher than the 120 who did not. The head teacher concludes the app raises marks.

- A. Two hundred students is too small a sample to show a difference
- B. Students chose their own group, so more motivated students may have picked the app
- C. Exam marks are not a quantitative measure
- D. The study should have followed the students for several years

Steps

1. Box 2 — was the app assigned? No, students chose. Box 4: self-selected.
2. So the groups may have differed before the app existed — motivation, prior marks, free time. That is B.
3. A: 200 is plenty to show 9 points. C: marks are numbers. D: a longer study still wouldn't fix who chose what.

Answer: B. Self-selection is a confound the design cannot rule out; A misdiagnoses the flaw, C is false, D fixes nothing.

Which design fits MEDIUM · target 70s

Which design best fits the lecturer's goal?

A lecturer believes a two-minute breathing exercise reduces pre-exam anxiety. She wants to say the exercise causes the reduction, not merely that calmer students happen to use it. She has 120 first-years and one afternoon.

- A. Ask all 120 whether they already use breathing exercises and compare their anxiety scores
- B. Randomly assign the 120 to do the exercise or sit quietly, then measure anxiety on the same scale
- C. Interview ten students in depth about how anxiety feels before exams
- D. Measure the anxiety of all 120 every month for a year

Steps

1. The goal word is *causes*: that needs manipulation, random assignment and a comparison group.
2. Only B has all three. A observes existing habits — the calm-students problem she named. C is qualitative with no comparison. D is longitudinal, unmanipulated, and takes a year she doesn't have.
3. Check the DV: B measures both groups on the same scale, so the comparison is fair.

Answer: B. A cannot separate cause from self-selection, C compares nothing, D manipulates nothing.

Reliable, valid, or both? HARD · target 85s

How should the questionnaire be described?

A team builds a ten-item questionnaire for “workplace belonging”, defined as having friends at work, intending to stay, and feeling included in decisions. Given to the same 300 employees two weeks apart, scores correlate at 0.91. Yet scores are almost unrelated to any of the three defining elements; most items, the team notes, actually ask about satisfaction with pay.

- A. Reliable, but of doubtful construct validity
- B. Valid, but unreliable
- C. Both reliable and valid, because 0.91 is high
- D. Neither reliable nor valid, because 300 employees is too few

Steps

1. Same people, two weeks apart, 0.91 — consistency. Reliable: yes.
2. Scores track none of the three defining elements; the items measure pay satisfaction. Construct validity: no.
3. Only A says reliable-yes, valid-no. B reverses it, C mistakes consistency for accuracy, D invents a sample-size problem the passage never raises.

Answer: A. Test–retest consistency is reliability; measuring the wrong construct is a validity failure. 300 is not the issue.

An association that depends HARD · target 90s

Which conclusion is best supported?

A two-year study follows 1,400 apprentices. Those with a named mentor in year one were more likely to complete the programme in year two. Mentors were not assigned; apprentices requested them. Split by employer size, the link is strong in small firms and absent in large ones, which interviews suggest already run structured support schemes.

- A. Mentoring causes completion in small firms
- B. Having a mentor is associated with completion overall, but the association appears to depend on employer size
- C. Mentoring has no effect, because it makes no difference in large firms
- D. Small firms should be required to assign every apprentice a mentor

Steps

1. Box 2 — nothing manipulated: apprentices *requested* mentors. Causal verbs are dead, so A and D go.
2. The split shows the link varies by firm size. C turns “absent in one subgroup” into “no effect anywhere” — an overclaim the other way.
3. B states the overall association, keeps the hedge, and reports the subgroup pattern as a dependency, not a verdict.

Answer: B. A claims cause without assignment, C erases an association that exists overall, D prescribes policy the evidence cannot carry.

Recognition drills: which concept is this?

Cover the answer, say the concept out loud, check. A few seconds per line — the goal is reflex, not reflection.

Name the concept

One line of a passage each. Say the concept it illustrates.

1. Names drawn from a hat decide who is invited to the survey. (8s)

Answer: Random sampling — who gets in.

2. A coin toss decides whether each participant gets the new timetable or the old. (8s)

Answer: Random assignment — which group.

3. Ice-cream sales and drownings both rise in July. (8s)

Answer: Confounded correlation — summer heat drives both; neither causes the other.

4. Neither the nurse nor the patient knows whether the tablet is the real drug. (8s)

Answer: Double-blinding; the inert tablet is the placebo.

5. The scale reads the same every morning but is always 2 kg high. (8s)

Answer: Reliable but not valid.

6. “Stress” is measured as nights with under six hours' sleep. (8s)

Answer: Operationalisation.

7. The same 500 children are surveyed at ages 8, 12 and 16. (8s)

Answer: Longitudinal design.

8. A claim worded so that no possible result could contradict it. (8s)

Answer: Unfalsifiable — not a testable hypothesis.

Call the variant and the move

A stem plus a scrap of design. Name the variant, then the move that wins.

1. Stem: “What is the independent variable?” Students randomly assigned to 20 or 40 minutes of homework. (10s)

Answer: Identify-the-variable. IV = homework minutes — what was set.

2. Stem: “Why is the conclusion unsafe?” Groups formed by students choosing whether to join. (10s)

Answer: Spot-the-flaw. Self-selection confound.

3. Correlational survey; an option says “proves that screen time causes poor sleep”. (10s)

Answer: Which-conclusion-follows. Overclaim — nothing was manipulated, so “proves” and “causes” both fail.

4. Sample: 50 nurses at one hospital. Option: “health workers nationwide ...” (10s)

Answer: Which-conclusion-follows. Generalising beyond the sample — wrong.

5. Stem: which design shows that a rule change *causes* fewer absences? (10s)

Answer: Which-design-fits. Random assignment plus a control group.

6. Prediction not supported. Option: “the theory is disproved for good”. (10s)

Answer: Interpret-the-result. Say “not supported under these conditions”.

7. Passage defines external validity as transfer to other settings; the stem asks about another city. (10s)

Answer: Definition-application. Use the passage's own definition: external validity.

Guided walkthrough: one passage, three questions

A university asks whether a peer-mentoring scheme helps first-years pass. Of 600 first-years, 180 sign up for a mentor. At year end 82% of mentored students pass all modules, against 68% of the others.

An internal report states that mentoring raised pass rates by 14 points.

Map first: who = 600 first-years at one university · manipulated = nothing (students signed up) · measured = pass rate · formed = self-selected · compared = mentored vs not.

Q1 — “What is the dependent variable?” Stem first: DV, so read box 3. Pass rate. “Whether a student had a mentor” is the grouping variable, not the outcome. 20 seconds.

Q2 — “Strongest objection to the report’s claim?” Spot-the-flaw, so read box 4: self-selected. Volunteers may be more organised or better prepared already. The self-selection option wins; “sample too small” loses (600 is plenty), “pass rates are not quantitative” loses (they are percentages). 40 seconds.

Q3 — “Which conclusion is best supported?” Box 2 is empty, so cross out “raised”, “improves”, “causes”. The survivor says mentored first-years at this university *were more likely* to pass — association language, population pinned to box 1. 30 seconds.

- I read the stem and options before the passage
- I filled the five boxes once and reused them
- I crossed out causal options when box 2 was empty
- I matched the option’s population to box 1
- I chose the survivor with the fewest added assumptions

Progressive practice: untimed, by tier

Work each tier untimed until you can say *why* every wrong option is wrong, not just which is right. A miss you can explain beats a lucky hit.

Live drill online: Easy · identify variables and safe conclusions —

<https://dmatprepguide.com/?try=drill&cat;=gam&tier;=easy&n;=6&timed;=0>

Live drill online: Medium · confounds and design choice —

<https://dmatprepguide.com/?try=drill&cat;=gam&tier;=medium&n;=6&timed;=0>

Live drill online: Hard · measures, subgroups and theory revision —

<https://dmatprepguide.com/?try=drill&cat;=gam&tier;=hard&n;=6&timed;=0>

After each set For every miss, write the five boxes in one line plus the word that killed the wrong option (“causes”, “all”, “nationwide”). Twenty such lines and the traps section becomes reflex.

Speed training: the clock goes on

Targets: **50 s** easy, **70 s** medium, **90 s** hard — passage included. Beat the target with a mistake? Slow down. Miss the target with no mistakes? You are rereading. Change one thing at a time.

1. **Round 1 — at target, accuracy first.** Catch yourself reading a passage cold? Restart the item.
2. **Round 2 — ten seconds under target.** Something has to give; make it rereading, not mapping.
3. **Round 3 — mixed tiers, back at target.** Log where the seconds went: options, passage, or the last two survivors. Drill the slowest.

Live drill online: Easy · 6 items, 50 s each —

<https://dmatprepguide.com/?try=drill&cat;=gam&tier;=easy&n;=6&timed;=1>

Live drill online: Medium · 6 items, 70 s each —

<https://dmatprepguide.com/?try=drill&cat;=gam&tier;=medium&n;=6&timed;=1>

Live drill online: Hard · 6 items, 90 s each —

<https://dmatprepguide.com/?try=drill&cat;=gam&tier;=hard&n;=6&timed;=1>

Exam application: spending the real 90 minutes

About 60 GAM questions in 90 minutes, these passages mixed among the numerical families. They carry no arithmetic, so they are the module's cheapest points — if you hold the pace.

1. **Stem and options first**, then one pass of the passage filling the five boxes.
2. **Cross out overclaimers**: causal verbs with nothing manipulated, populations never sampled, “always” and “proves”.
3. **Take the cheap linked question first**. Identify-the-variable is usually fastest; bank those seconds for the conclusion question on the same passage.
4. **Trust the passage over your notes**. If it defines a term differently from your textbook, the passage wins — the answer key was written from it.
5. **Answer everything**. No negative marking: a blank scores exactly like a wrong answer.
6. **Flag and return**. Still stuck at 90 seconds? Provisional answer, flag, go. Never let one passage steal three other questions.

The last thirty seconds The last thirty seconds of an item belong to the answer, not the analysis. Two options still standing? Take the weaker verb and the smaller population, mark it, move.

Live drill online: Exam simulation · hard, 90 s each —

<https://dmatprepguide.com/?try=drill&cat;=gam&tier;=hard&n;=6&timed;=1>

Cheat sheet

- IV = what was set. DV = what was measured. Set comes before measured.
- Random sampling → who gets in → generalisation. Random assignment → which group → causation.
- No manipulation → no causal option can be right.
- Confound = groups differ in more than the IV. Self-selection is the usual one.
- Internal validity: can it claim cause? External: does it transfer? Construct: right thing measured?
- Reliable = consistent. Valid = accurate. A scale always 2 kg off is reliable.
- Operationalisation: the concept turned into a count.
- Cross-sectional = snapshot. Longitudinal = same people over time.
- Small *and* narrow samples limit generalisation; big samples never fix self-selection.
- Blinding hides the condition; the placebo is the inert stand-in.
- A hypothesis must be able to fail. “Not supported” ≠ “disproved”.
- Stem and options first. Map once. Locate, don't reread.
- Kill words: proves · always · all · never · nationwide · should.
- Prefer the option that paraphrases the passage's own definition.
- Match the option's population to the passage's sample, word for word.
- Subgroup differences mean “depends on”, never “no effect”.
- Fewest added assumptions wins the tie.
- Answer everything. Blank = wrong, and guesses are free.

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