

Global Issues: Research, Evidence and Group Decisions

GAC028 public-outcome practice; check the current centre brief.

Counts and reported reasons describe different evidence

Measured amounts

Returned plate waste can be weighed and related to the number of served meals.

This answers how much was recorded in the observed lunches.

Reported reasons

Volunteers can explain why they say food was left.

These accounts do not establish every student's motives or a causal effect.

The actual brief sets methods, structure and criteria

- Use an achievable and appropriate research question.
- Keep invented practice cases separate from researched findings.
- Follow the centre brief for permissions and assessment.

A global issue connects places through more than one pathway

Connection	Question to investigate
Shared water	How could upstream use affect downstream users?
Food systems	How does a local waste question connect to wider production and consumption?
Education access	Which local conditions differ between settings?

Use the evidence

Identify the particular connection. A global issue can have different causes and responses in different places.

Shared resources, externalities and collective action have distinct meanings

Concept	Application to the fictional river
Shared resource	A uses irrigation water; B draws household water from the same river.
Possible externality	A proposed discharge could impose a water-quality cost on B. Tests are not supplied.
Collective action	Shared monitoring needs agreement on measures, sampling, reporting and costs.

Use the evidence

A conceptual explanation is not evidence that contamination occurred or permission to discharge.

An indicator measures a defined part of development

Aspect of development	Check before comparing
Health	What health measure, population and period does the indicator describe?
Education	What aspect of access or experience is being measured?
Income / living conditions	Are definitions and settings comparable?

Use the evidence

An income figure alone cannot establish a community's health or education experience.

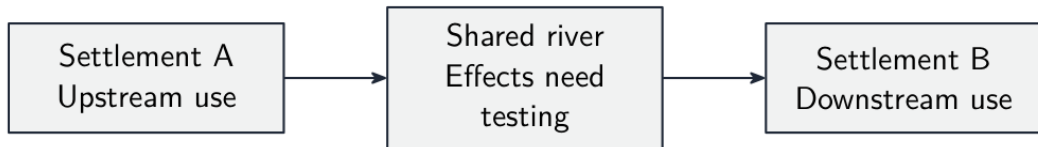
Water-cooperation milestones show sustained attention

Dated milestone	What it establishes
1977: Mar del Plata	First UN Water Conference; sustained international attention.
2015: SDG 6	A dedicated water and sanitation goal.
Current river quality	Neither milestone measures it. Relevant sampling evidence is still needed.

Use the evidence

Source context: UN water-conference history and UN water and sanitation, cited in the handout.

Upstream and downstream users have connected needs



- Settlement A uses irrigation; B draws household water downstream.
- A proposed discharge creates a possible cost to investigate.
- No supplied tests establish contamination or an approved discharge.

Choose methods by what the question needs to establish

Question component	Method and reach
Recorded waste per meal	Weigh returned waste and count served meals in the observed lunches.
Reported reasons	Interview permitted volunteers with neutral wording.
Bring evidence together	Relate amounts and accounts while preserving their different scope.

Use the evidence

Mixed methods are useful when each method answers part of the question; two methods do not automatically prove causation.

Sampling describes who, where, when and how

Sampling record	What the canteen report must state
Who / where	Observed lunch groups; interview volunteers and recruitment method.
When / selection	Which lunches and menus were included; how observations were selected.
Missing evidence	Nonresponses and unobserved lunches; volunteers can differ from others.

Use the evidence

A convenience sample supports a local pilot, not automatic whole-school representation.

Validity and reliability address different problems

Reliability: consistency

Use a checked scale and the same recording rule each time.

Repeatedly weighing the same quantity consistently addresses consistency.

Validity and scope

Waste per served meal fits an amount question, not the reasons people leave food.

A consistent scale cannot make three lunches represent an unobserved whole week.

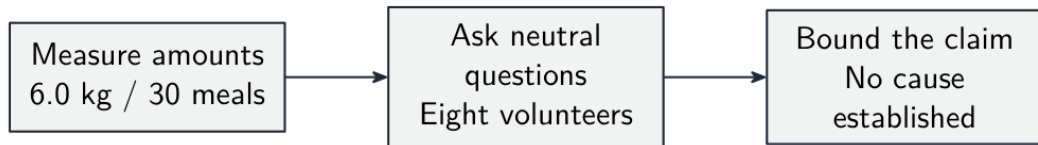
Ethics includes participation and careful data handling

Before collecting	Explain and arrange
Participation	Understandable information, voluntary participation and appropriate consent.
Data handling	Only justified information; small groups or distinctive details may identify people even without names.
Withdrawal	What can be withdrawn, how and until when, under the approved procedure.

Use the evidence

Use the actual brief and permissions. A practice proposal does not permit collection.

Measured waste and volunteered accounts have different roles



- Three lunch records give recorded mass and meal counts.
- Eight volunteers provide reported reasons.
- The evidence supports bounded findings.

Your turn: calculate the recorded waste rate

Your turn

Three lunch groups each served 10 meals. Their returned waste was 2.0, 3.0 and 1.0 kg. Calculate recorded waste per served meal. Explain why it is not waste per student who left food.

Attempt the complete task before advancing. Show the method and interpret the result.

Use served meals as the supplied denominator

- 1 Known** Returned waste: 2.0, 3.0 and 1.0 kg. Each group served 10 meals.
- 2 Choose the denominator** The supplied count is served meals, not students who left food.
- 3 Calculate** $m_{\text{per meal}} = \frac{m_{\text{total}}}{N_{\text{meals}}} = \frac{6.0 \text{ kg}}{30} = 0.20 \text{ kg per served meal}$
- 4 Interpret** This is the recorded rate across the observed lunches; menus differ and a wider period was not observed.

Overlapping reported reasons need not sum to the respondent count

Fictional interview record	Interpretation
8 volunteers responded	This is the respondent count, not the whole school.
7 mention portion size	Reported among these volunteers; not a verified cause.
3 mention lunch time	A person may mention both reasons.
10 total mentions	Overlapping responses need not sum to 8. Do not force mutually exclusive categories.

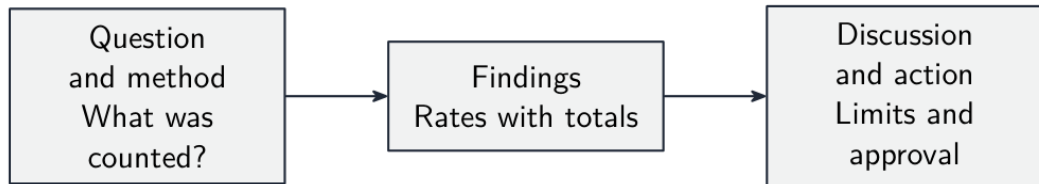
Report structure should make the study traceable

Report part	What the reader should find
Question / method	Question, selection, period, measures and safeguards.
Findings	Recorded observations, with units and denominators.
Discussion	Meaning, alternative explanations and limits.
Conclusion / sources	Answer the bounded question; label proposals and trace borrowed claims.

Use the evidence

Follow the actual brief; include an abstract where required. This is a common structure.

The report diagram retains limits between findings and proposals



- Question and method lead to recorded findings.
- Discussion evaluates what the findings mean.
- Further work remains a proposal needing appropriate permission.

Your turn: compare bin error rates

Your turn

Classroom: 8 errors in 80 items. Stair landing: 18 in 90. Canteen: 15 in 150. Calculate and compare rates. Can these observations prove new labels reduced errors? Explain.

Attempt the complete task before advancing. Show the method and interpret the result.

Different denominators can change the comparison

Location	Errors / items	Recorded rate
Classroom	8 / 80	10%
Stair landing	18 / 90	20%
Canteen	15 / 150	10%

Use the evidence

Error rate = errors $\div$ items $\times$ 100%. Stair landing has the highest rate. No labels were changed, so these data do not show a reduction from new labels.

Present references, tables and limitations clearly

Practice presentation model

“At the stair landing, 18 of 90 items were errors: 20%. The classroom and canteen rates were each 10%.”

“These are recorded five-day observations. We did not change labels or test an intervention.”

“We propose a permitted label-understanding study; it is not evidence of an improvement already achieved.”

Notice

Rehearse who explains the table, the denominator and the limitation. Cite borrowed background separately from fictional data.

A local study connects to a wider issue with a defined scope

Local observation

A school's waste record describes the people, meals and period actually observed.

It can investigate a bounded part of a wider food-system issue.

Wider context

A historical conference documents international attention.

It cannot establish that the local problem, or the global problem, was solved.

Economic security: the Depression connected places through disruption

Read the source within its scope

Historical context: the Great Depression began in 1929 and spread internationally, affecting employment and household resources.

Federal Reserve History's account mainly focuses on the United States. It supports historical claims within that scope.

An argument about another society needs suitable evidence for that society. The stock-market crash is not a complete explanation of every consequence.

Peace and cooperation: an institutional aim differs from all outcomes

Institutional purpose

The UN was founded in 1945 after the Second World War.

Its history records an aim of preventing another world war.

Outcome claim

That aim does not measure every later conflict or response.

Choose a particular response, then examine evidence of its effects and limits. Source context: UN history in the supplement.

Public health: the smallpox achievement was a coordinated programme

WHO intensified the smallpox eradication programme in 1967.



Coordinated vaccination and surveillance contributed to the programme.



Eradication was declared in 1980: a particular historical achievement.



Do not infer one universal programme for all diseases or attribute the result to technology alone.

Environment: a conference records a response, not every environmental change

Documented response

The 1972 Stockholm conference helped establish UNEP.

This is evidence of a dated institutional response.

Environmental change

Production, consumption and shared resources can connect effects across places.

A claim that conditions improved needs relevant measurements and a stated period. Source context: UNEP timeline.

Development: goals and indicators have different purposes

Source or measure	What it can support
2015 SDGs	Goals linking poverty, health, education, inequality and environment.
A target	An intended result, not proof that it was achieved.
A defined indicator	A particular aspect of development, subject to definitions and context.

Use the evidence

Choose indicators suited to the question; one income measure cannot stand for all community experience.

Authority must be relevant to the particular claim

Evidence source	Suitable claim / limit
Historical account	Supports a dated milestone within its documented scope.
Local measurement report	Supports the recorded setting and period using its stated method.
Promotional success statement	Needs the criteria and evidence used to judge success.

Use the evidence

Relevant expertise and a documented basis matter. An institutional name alone does not establish every claim.

An evidence log makes source evaluation specific

Evidence-log field	Entry to record
Claim / source / date	Exact claim used; traceable original source and date.
Setting / measure / method	Who or what was studied, which measure and how records were made.
Limitation	How selection, wording, missing responses or interpretation could affect the result.
Independence	Check whether two websites repeat the same original evidence.

Use the evidence

Explain how a specific bias could affect the result; disagreement alone does not establish bias.

A target is not an observation of a policy effect

Waste-reduction target

Specifies an intended outcome.

It does not record a measured effect in this school.

Three-lunch observation

Records waste per served meal for a defined period.

It does not test a new policy. Comparing against a target requires compatible measures and context.

A bounded local question can use amounts and accounts

A bounded research question

“What returned plate-waste mass per served meal was recorded in the observed lunches, and what reasons did volunteers report?”

Quantitative component: measured mass divided by served-meal count.

Qualitative component: volunteered accounts and meanings, with recruitment and wording limits.

Notice

The two components answer different parts. Neither makes the volunteer accounts causal proof.

Plan observations and safeguards before collecting records

Planning decision	Specify before collection
Observation	Period, selection, categories, units and analysis.
Recording	Consistent rule; retain unexpected records; pilot wording with permission.
Safeguards	Approved consent, data handling and withdrawal limits.
Study status	State whether proposed or conducted. Background literature cannot replace observations never made.

Group problem solving starts with stakeholders and criteria

Stakeholder	Criterion to keep visible
Students	Preferences and nutrition needs, without assuming all agree.
Canteen staff	Capacity to prepare and serve the proposed option.
School managers	Feasibility and required approval.

Use the evidence

Compare alternatives against the same criteria; record disagreement and missing evidence rather than switching standards for a preferred option.

Three portion proposals raise different questions

Fictional proposal	Possible benefit	Needed checks
Smaller-portion option	Could match some appetites	Demand, nutrition, staff capacity, measured waste
Preference study	Could clarify reported preferences	Neutral wording, recruitment, planned use
Waste reminder	Could draw attention	Comprehension, pressure, actual effect

Use the evidence

None has been performed. Possible benefits are hypotheses to evaluate, not demonstrated results.

Choose a next step for a stated reason

- 1 Evidence** Seven volunteers mention portion size; this does not establish whole-school demand or feasibility.
- 2 Next step** Propose an approved preference study to address the stated uncertainty.
- 3 Justification** Compare demand, nutrition and staff-capacity criteria; retain disagreement.
- 4 Later evaluation** Use compatible waste-per-meal measures and consider changed menus or recruitment. No reduction has yet been demonstrated.

Your turn: repair the unsupported claim

Your turn

Eight volunteers responded; seven mentioned portion size and three lunch time.

Rewrite: “Everyone wants smaller meals, so the solution will work.” Preserve what the evidence supports and state the limit.

Attempt the complete task before advancing. Show the method and interpret the result.

Academic register should help this audience understand

Unsupported overclaim

“Everyone wants smaller meals, so the solution will work.”

The claim exceeds eight volunteers and predicts an untested policy effect.

Supported revision

“Seven volunteers mentioned portion size; this justifies exploring preferences.”

“Further permitted research is needed before predicting a policy’s effect.”

A discussion chair makes disagreement useful

Practice chairing exchange

Chair: "Which criteria should we use to compare a portion option with a reminder?"

Member A: "Demand matters." Member B: "Staff capacity and nutrition also matter."

Chair: "Let us retain all three. What evidence do we have, and what would resolve the uncertainty?"

Summarise fairly, invite views without forcing personal disclosure, and record an agreed next step or unresolved point.

Check yourself

- How do institutional purposes, targets and observations differ?
- What does the smallpox case establish?
- Which criteria help compare the fictional proposals?
- How would you revise the “everyone wants smaller meals” claim?