Exercise walk-through

4.6
Man-made Environmental Issues

GAC Academic English

Method — Key knowledge: method, results and interpretation have different jobs

A report's method explains how information was collected. Results state what was recorded. Interpretation explains what the results may mean and what remains uncertain. A **claim** about "less waste" needs a defined measure: disposable cups counted, cups sold, or material thrown away are different quantities.

A **referencing style** gives a consistent way to identify sources. For this practice, use author, year, title and "fictional classroom source card". Do not invent a journal, publisher, URL or page number. A reference identifies a source; it does not make its conclusion reliable.

Method — Source A: observation card

Author: L. Rao. Year: 2026. Title: Café Cup Trial. Status: fictional classroom source card. A student counted disposable cups handed out at the campus café from 12:00 to 14:00 on two Tuesdays. On the first Tuesday, 120 cups were handed out. Before the second Tuesday, staff displayed a sign inviting customers to bring reusable cups; ninety disposable cups were handed out during the second count. Different staff served on the two days. The card does not record total drink purchases, how many reusable cups were used, or any cups discarded outside the café. No further observation day is included.

Method — Source B: poster draft

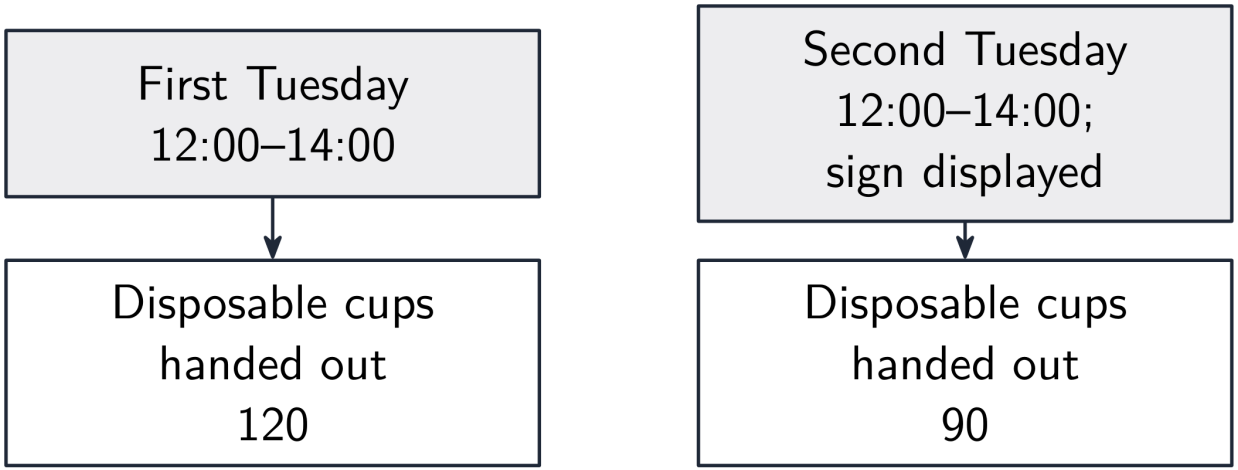
“Our new sign cut all campus cup waste by one quarter. It works for every café, so no more measurements are needed.”

Method — Worked example: separate the result from the explanation

Known: the count changed from 120 to 90 for the same two-hour window on two different days. The count decreased by thirty. The sign was not the only recorded condition that changed.
Model: “Rao’s fictional Café Cup Trial (2026) recorded fewer disposable cups handed out on the second Tuesday. The two-day comparison does not isolate the sign’s effect because purchases were not counted and staff differed.” “Fewer handed out” preserves the measure. “All campus waste” replaces it with an unmeasured outcome and location.

Method — Worked example: separate the result from the explanation

The two-day comparison does not isolate the sign's effect because purchases were not counted and staff...



Method — Worked application: A count decrease can coexist with a higher rate

This is a separate invented extension, not extra information about the earlier café card. On one day 120 disposable cups accompany 200 drink sales; on another, 90 accompany 100 sales. Cup count falls by 30, or 25% of the initial count. But the disposable-cup rate per drink rises from $120/200 = 60\%$ to $90/100 = 90\%$. A truthful report names the measure: fewer cups were handed out, while more cups were handed out per drink sold. Neither observation isolates a sign's causal effect. Comparing rates needs a relevant denominator and comparable observation methods; it must not silently turn drink sales into a measure of all waste.

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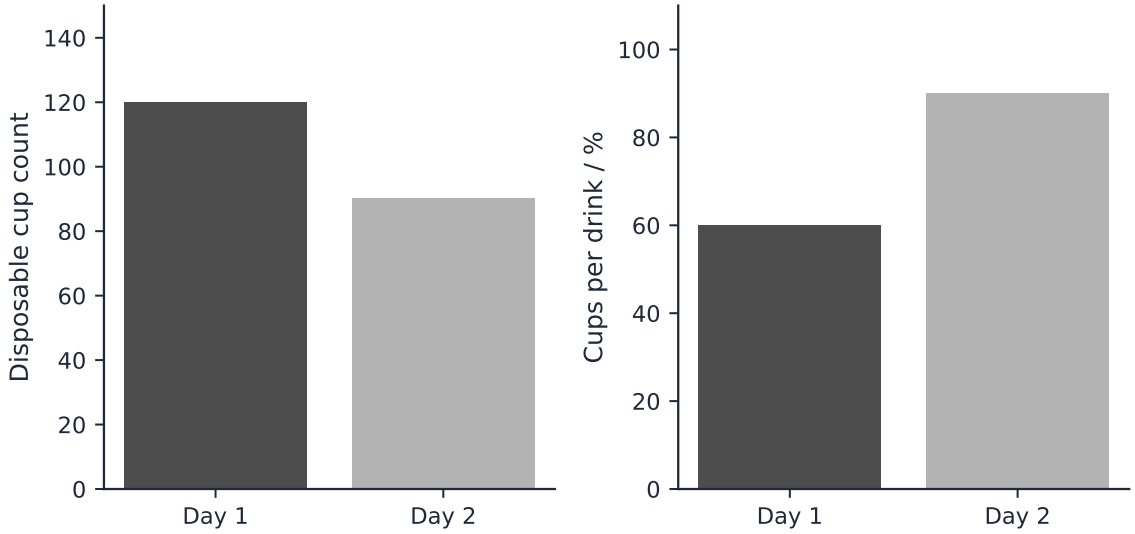

Original diagram of the separate worked extension

Exercises 2.1·2.3

2.1 State the observation time window and identify exactly what was counted. [2]

2.2 State the disposable-cup counts for the first and second Tuesday. [2]

2.3 Identify TWO ways in which the poster's claim exceeds the card's evidence. Explain one of them. [3]

Exercises 2.1·2.3

2.1 State the observation time window and identify exactly what was counted. [2]

2.1 12:00–14:00 on each Tuesday; disposable cups handed out at the campus café, not all cups discarded or total drinks sold.

2.2 State the disposable-cup counts for the first and second Tuesday. [2]

2.2 First Tuesday 120; second Tuesday 90.

2.3 Identify TWO ways in which the poster's claim exceeds the card's evidence. Explain one of them. [3]

2.3 Any two accurate overstatements (2 × B1): all campus waste was not measured; causation by the sign was not isolated; all cafés were not studied; two days do not remove the need for further evidence. One clear explanation linked to the card earns B1, for example purchases were not counted, so fewer customers could account for fewer disposable cups.

Exercises 2.4·3.1

2.4 Write a source-list entry using the author, year, title and fictional source status. Explain why adding an invented journal name would be misleading. [3]

3.1 Write a 60–80 word results-and-limits paragraph for a class report. Attribute the source, preserve the counted measure and give two limits. Do not claim a proven sign effect. [6]

Exercises 2.4·3.1

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2.4 "Rao, L. (2026). Café Cup Trial. Fictional classroom source card." (2 × B1: author/year; title/status). An invented journal would present a classroom exercise as a real published study and mislead the reader about its origin. Punctuation variations are acceptable if all required details are identifiable.

3.1 Write a 60–80 word results-and-limits paragraph for a class report. Attribute the source, preserve the counted measure and give two limits. Do not claim a proven sign effect. [6]

3.1 Six points (6 × B1): Rao's supplied fictional source attributed; 120 to 90; disposable cups handed out preserved; matching time window stated; two evidence limits (2 points). Sample: "Rao's fictional Café Cup Trial (2026) recorded 120 disposable cups handed out from 12:00 to 14:00 on the first Tuesday and ninety in the matching window on the second. The later count followed a reusable-cup sign, but total drink purchases and reusable-cup use were not recorded. Different staff also worked on the two days. The comparison describes a lower count; it does not establish the sign's effect on campus waste."

Exercise 3.2

3.2 Write a 100–130 word recommendation for a further café trial. Explain two useful records to add, why more observation days would help and how the conclusion should be worded until stronger evidence exists. [8]

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3.2 Eight points (8 × B1): more days proposed; same observation window; total purchases recorded; reusable-cup use recorded; reasons for both extra records (2 points); qualified conclusion; coherent practical recommendation. Accept other well-justified designs and records. Sample: "Continue the trial across several comparable observation days, using the same two-hour window. Count total drink purchases as well as disposable cups handed out; this would help distinguish a change in cup choice from a quieter café. Also record reusable-cup use, so the report can describe whether customers are choosing an alternative. Note staff and other changes that might affect service. Several days would show whether the pattern repeats rather than depends on one unusual Tuesday. Until these records are available, describe the present result as a lower disposable-cup count after the sign appeared. Do not present it as proof that the sign reduced all campus waste or that every café would get the same result."

Exercise 3.3

3.3 A separate fictional extension records 80 disposable cups for 160 drink sales, then 60 for 80 sales. Calculate both cup-per-drink percentages, compare the count and rate changes, and state one limit on a causal claim. [4]

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3.3

Rates 80/160 = 50% and 60/80 = 75%; count falls by 20; rate rises by 25 percentage points; no controlled comparison isolates the cause and other conditions may differ.