21 Choose evidence for a precise textual or numerical claim

Name: _____ Class: _____ Date: _____ **Total: 13 marks**

KEY WORDS comparison base • relevance • evidence • detail • rate

Objective

- Choose a detail that directly supports or challenges a stated claim
- Use a table's labels, quantities and comparison base correctly
- Separate relevance from evidence that discriminates between explanations

Original public practice; marks below are classroom self-check points, not official criteria.

1 Key knowledge and worked examples

First translate the target claim into an evidence requirement. A claim that repeated practice helps retention needs information about retention under differing practice conditions, not simply a statement that learners enjoyed the activity. An interesting related fact may fail to support the specific relationship asserted.

For textual evidence, identify whose claim is being tested and whether the task asks for support, challenge or completion. A quotation with familiar nouns is not enough. Ask what would become more credible or less credible if that detail were true, while preserving the passage's actual degree of certainty.

For quantitative evidence, read title, axes or headers, units and groups before calculating. Use before/after differences when the claim concerns improvement, final values when it concerns outcomes and proportions when group sizes differ. A larger count can represent a smaller share in a larger group.

A numerical pattern may support a descriptive comparison without proving why it occurred. If no random assignment or controlled causal evidence is stated, avoid a causal conclusion. The original table in this lesson is a hypothetical teaching dataset, not a published study; its purpose is to practise reading the relationship.

Evidence must support the exact claim, including its comparison base. If 9 of 15 tasks succeed, $p = n_{success}/n_{total} = 9/15 = 60\%$. A group with more successes may still have a lower success rate . Before/after data describe changes; without controlled assignment they do not prove a cause.

Original hypothetical data: choose the claim's comparison

Group	Learners	Before	After	Correct (%)
A	20	12	16	60% → 80%
B	40	24	28	60% → 70%

Group B gains as many correct answers, but group A has the larger rise in percentage

Worked example. Original hypothetical table: Group A has 20 learners, 12 correct before and 16 after; Group B has 40 learners, 24 correct before and 28 after. Both gain four correct responses, but A's correct share rises from 60% to 80% (20 points), while B rises from 60% to 70% (10 points). This supports "A had the larger percentage-point improvement", not "A had more correct final responses" or a causal claim about the method.

■ Practice material

Hypothetical study. Two groups used a revised catalogue for a second search session. No random assignment is reported. Group P had 30 users, with 12 successful searches before and 21 after. Group Q had 50 users, with 30 successful searches before and 35 after. Each user completed one search in each session. The researchers claimed that P showed the larger percentage-point improvement, while Q still had more successful searches in the second session. A separate comment said the revision must have caused every improvement.

2 Practice

2.1 A has 10 of 20 successes; B has 18 of 60. Which supports A's higher success rate? [1]

- **A** Both rates are 50%.
- **B** A is 50% and B is 30%.
- **C** B has more successes.
- **D** A has fewer participants.

2.2 Claim: students found instructions unclear. Which detail most directly supports it? [1]

- **A** The activity lasted ten minutes.
- **B** The materials were inexpensive.
- **C** Most requested clarification of the same step.
- **D** Most liked the room colour.

2.3 12 of 30 observations is _____ percent. [1]

2.4 A higher final count always means a higher success rate. [1]

3 Exam-style questions

Use the complete original case context in section 1.

3.1 Give the before and after success percentages and percentage-point changes for both groups. [3]

3.2 Which claim is supported by 35 compared with 21, and which is supported by 30 points compared with 10 points? [3]

3.3 Explain why the causal comment is too strong. Give one additional observation that would help investigate an alternative explanation. [3]

Solutions

Accept equivalent correct methods and supported interpretations. The marks check reasoning; they are not an official grade.

2.1 B – The rates use each group's denominator. A wrongly gives B a 50% rate; C compares raw counts rather than rates; D states sample size without establishing the success proportion.

Correct response linked to the given case.

2.2 C – Requests about the same step bear on clarity. A concerns duration, B cost and D decoration; none directly indicates comprehension of the instructions.

Correct response linked to the given case.

2.3 40 – $12/30 \cdot 100{=}40$.

Correct response linked to the given case.

2.4 False – Group sizes can differ; compare proportions.

Correct response linked to the given case.

3.1 $p_P = 12/30 = 40\%$ before and $21/30 = 70\%$ after, a 30-point increase. $p_Q = 30/50 = 60\%$ before and $35/50 = 70\%$ after, a 10-point increase. P has the larger change; both final rates are equal.

Sound conclusion or proposed method. Relevant supporting steps or textual evidence. Accurate conditions, checks or qualification.

3.2 The final counts support Q having more second-session successes. The percentage-point changes support P improving more. Exchanging those pieces of evidence would confuse final outcome with change and counts with proportions.

Sound conclusion or proposed method. Relevant supporting steps or textual evidence. Accurate conditions, checks or qualification.

3.3 Session order, practice or different tasks could contribute; no randomised comparison is described. A control group using the original catalogue in both sessions under otherwise matched conditions could estimate practice effects. It would help test causation, not automatically prove that every user's improvement has one cause.

Sound conclusion or proposed method. Relevant supporting steps or textual evidence. Accurate conditions, checks or qualification.