Activity 4: Analysing a classroom-based TESOL study

- Read the study **“Wrapping up classes”** and answer the following question:
  - **How did the teacher move from noticing a classroom problem to investigating it and taking action?**
    Identify the main stages of the research process and give evidence from the study for each stage.

https://www.teachingenglish.org.uk/sites/teacheng/files/pub_british_council_champion_teachers_1.pdf

Wrapping Up Classes

An Exploratory Action Research Case Study by Andrea Robles López

A practical classroom puzzle: Why does the end of the lesson fail to help students recognize or remember what they have learned?

From Impression to Inquiry

Students packing belongings instead of reflecting.

Andrea bypassed predetermined methods, starting instead with a hunch that her carefully planned warm-ups and main activities were being systematically undermined by the final stage of the lesson.

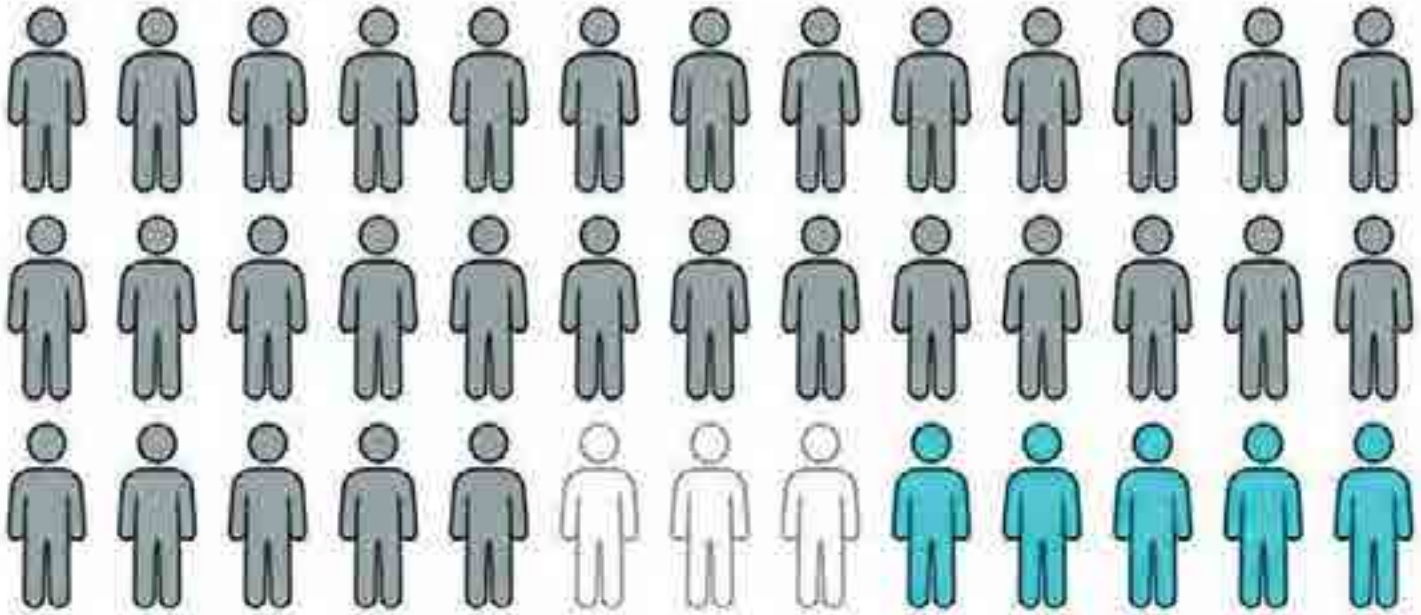
Reflected on own practice & invited peer observation.

Discussed lesson closure with colleagues.

Consulted relevant professional literature.

Validating the Hunch: The Baseline Reality

The baseline evidence confirmed that the concern was a systemic issue, not merely an impression.

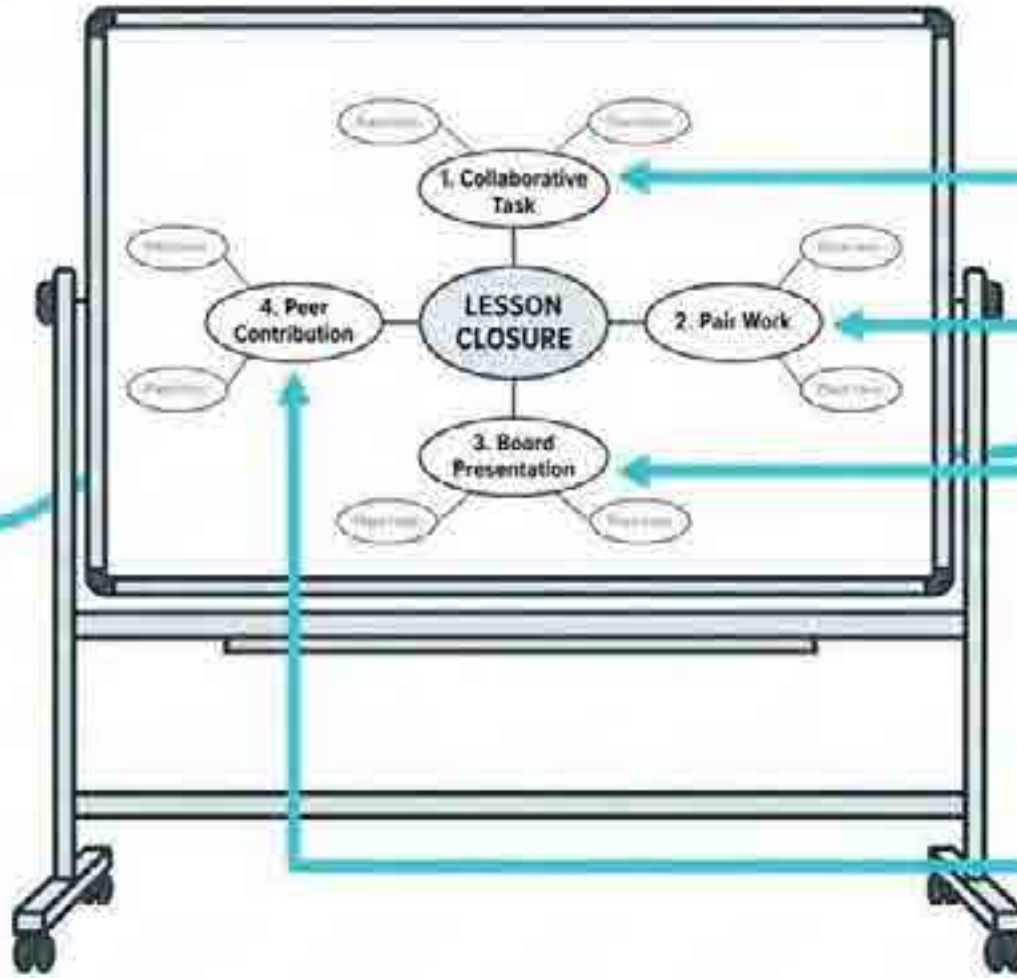


Did not remember (23) | Did not answer (3) | Answered correctly (8)

The Fatal Flaw in Questioning:

Peer observation revealed that Andrea generally asked broad questions like “What did we learn today?”
This prompted almost zero engagement while most students simply prepared to leave.

Shifting the Focus: Student-Centered Closure



10-Minute Collaborative Task: Replaced broad, dismissive questions with structured activity.

Pair Work: Students work in pairs to construct mind maps of the lesson content.

Board Presentation: One pair presents their synthesized mind map on the board.

Peer Contribution: Other students actively contribute additional or missing ideas to the board.

Testing, Evaluating, and Refining

Mind-mapping

Outcome: Most students recalled content; broad student engagement and collaboration.

Mini-whiteboards & Interactive Reviews

Outcome: Varied success; useful for specific tasks but not universally effective.

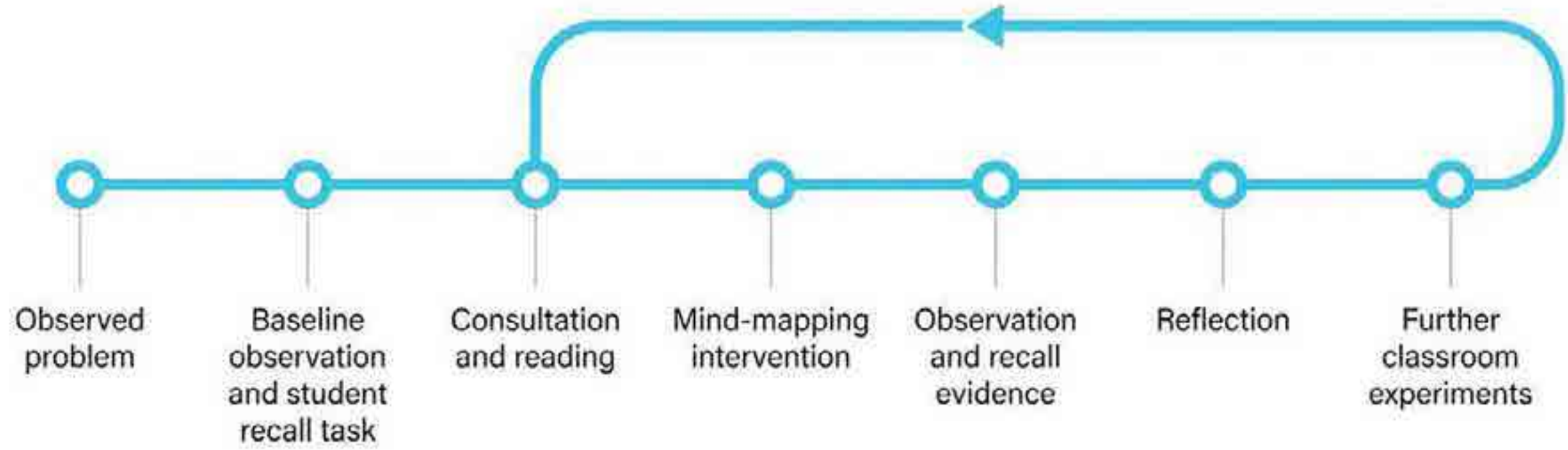
Traffic-light reflections

Outcome: Relatively limited participation and weaker recall.

Classroom research involves testing, evaluating, and refining possible solutions in reality, rather than simply demonstrating that a single intervention "works."

Example: Improving Lesson Closure

Making the relationship between an authentic classroom problem, evidence collection, practical action, and iterative reflection immediately visible.



The Anatomy of Classroom-Based TESOL Research

Problem-driven. Begins with an issue arising directly from teaching. (Andrea noticed students packing up instead of reflecting)

Context-sensitive. The inquiry concerns a specific class and environment. (Her specific English lesson parameters)

Evidence-informed. Relies on collected observations and student responses. (The 34-student baseline recall task)

Practical. Interventions are implemented during normal lesson time. (The 10-minute collaborative mind-mapping)

Iterative. Multiple strategies are tried, compared, and refined. (Testing mind maps against traffic lights)

Improvement-oriented. The goal is to understand and elevate teaching, not merely produce generalizable findings.

Quantitative Research

Quantitative research

- **Quantitative research** is a methodological approach that seeks to determine the relationship between or among variables of interest.
- **Variables** of interest are clearly spelt out; measurement is standardised;
- Data are analysed via statistical means.
- An objective approach is essential.

Understanding strengths and weaknesses of a research approach

Quantitative strengths	Quantitative weaknesses
Tests and validates existing theories/hypotheses.	Theory may not reflect reality.
Data collection is relatively quick (esp. survey research).	Focus on a limited number of variables at a time; must control remaining variables
Useful to show general tendencies of the population/groups	Statistic findings are difficult to understand.
Provides an outsider's perspective (etic).	Ignores individual cases as focuses on groups/cohorts
Data are more uniform in types.	Data design is not flexible to changes of situations.
Useful to study large numbers of people.	Data analysis is not effective with a small sample size.
Relatively easy to show reliability of instruments.	Tends to focus on what questions (relationships/differences)

Aspect	Quantitative
Purpose	To study relationships, cause and effect
Design	Developed prior to the study
Approach	Deductive, test theory or hypothesis
Tools	Quantitative, standardised instruments; hard data
Sample	Large; quantity
Analysis	Statistical

Language in Numbers: Applied Linguistics Scenarios

The Linguistics Model

Research Question:
What is the relationship between L2 grammar knowledge and reading comprehension?

Variables:
Grammar scores (Interval) vs Reading scores (Interval).

Statistical Blueprint:

- **Pearson's Correlation:** To quantify the strength and direction of the relationship.
- **Simple Regression:** To predict reading scores based purely on grammar test performance.

The Testing Model

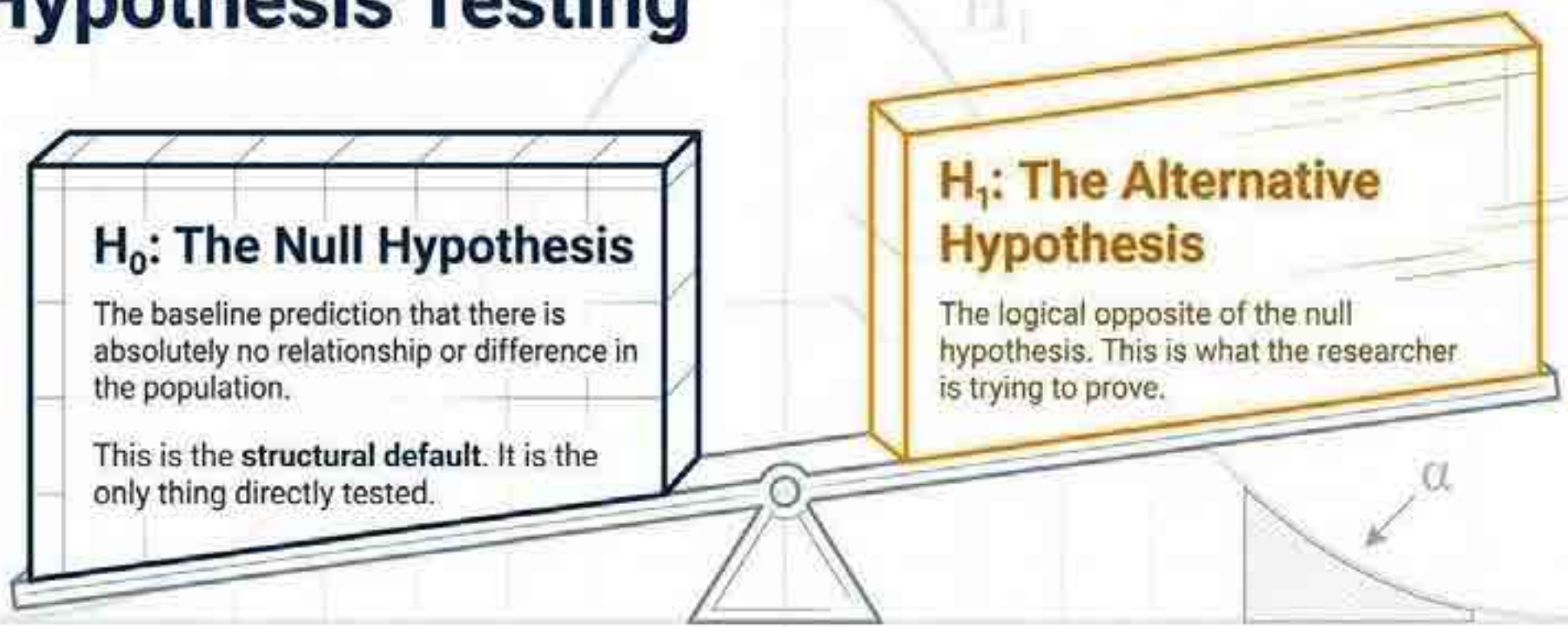
Research Question:
Do IELTS scores accurately predict international student academic success?

Variables:
IELTS scores (Interval) vs Graduation GPA (Interval).

Statistical Blueprint:

- **Pearson's Correlation:** To measure the associative strength.
- **Multiple Regression:** To build a predictive model of student success by factoring in additional variables (e.g., major, years of study).

The Proving Ground: Hypothesis Testing



H_0: The Null Hypothesis

The baseline prediction that there is absolutely no relationship or difference in the population.

This is the **structural default**. It is the only thing directly tested.

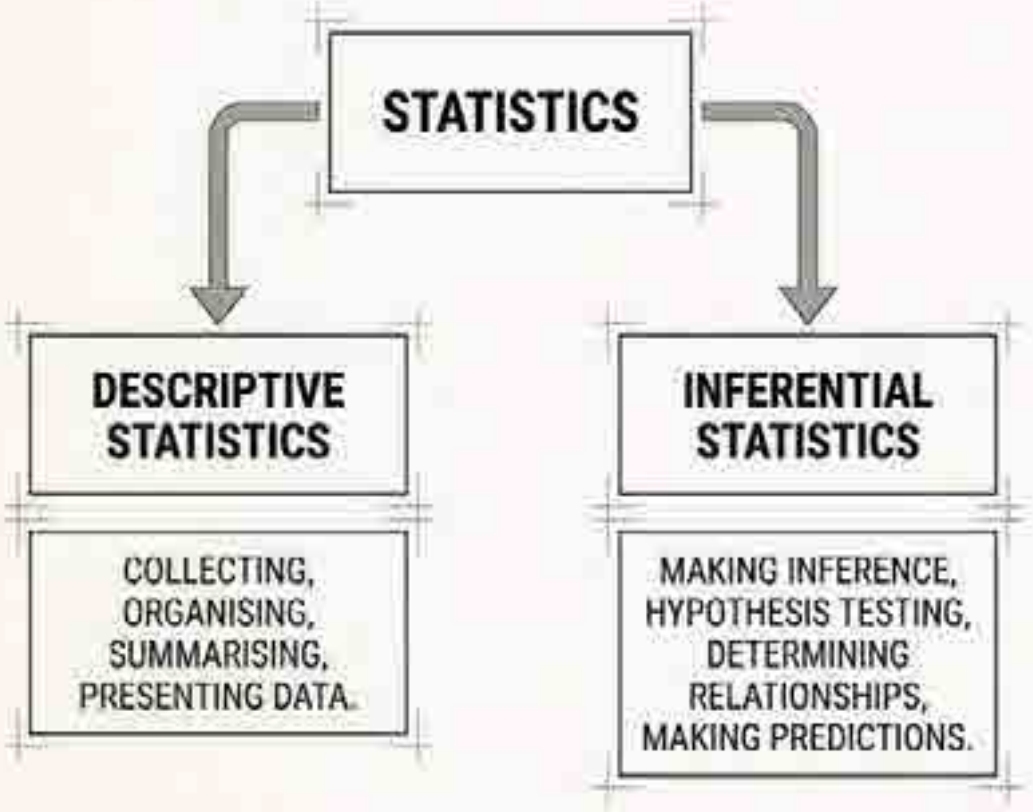
H_1: The Alternative Hypothesis

The logical opposite of the null hypothesis. This is what the researcher is trying to prove.

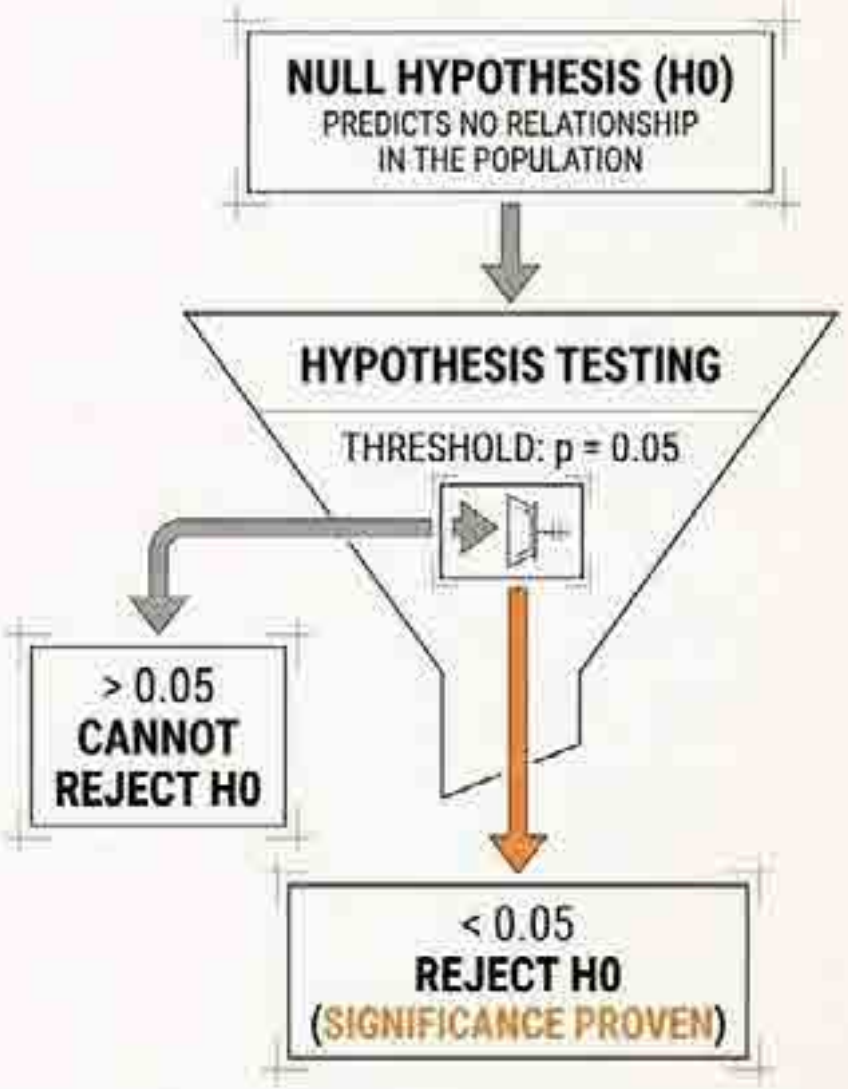
The Fundamental Rule: In quantitative research, we never directly test our own theory. We test the status quo. The objective is to gather enough statistical evidence to confidently reject H_0, leaving H_1 as the only logical architectural reality.

THE STATISTICAL FOUNDATION: GOVERNING RULES OF DATA

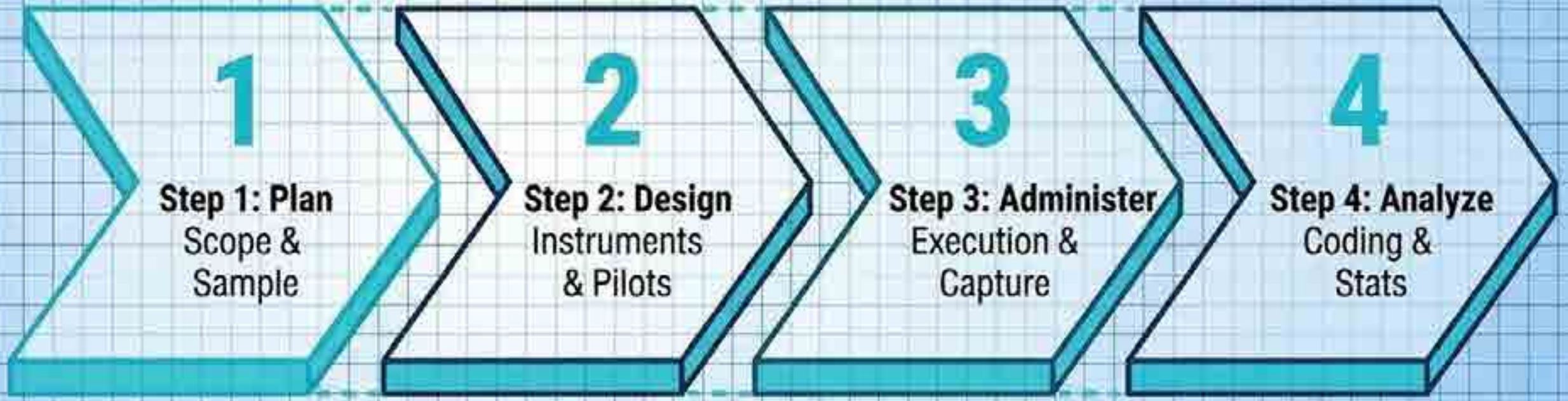
STATISTICAL TYPOLOGY



THE P-VALUE FILTER



The Survey Research Lifecycle



Survey research is a strictly sequential operation. A failure in Phase 1 (Sampling) mathematically invalidates Phase 4 (Analysis). Planning administration and analysis must occur before designing a single question.

Anatomy of a **Questionnaire:** Translating Constructs to Data

THE CONSTRUCT

Abstract linguistic concept

DECONSTRUCTED SURVEY

Taxonomy of Strategy & Items

Table 1. Schematic or of the reference image

Processing	Subscale	No. of Items	Items
1. Cognitive strategies	Comprehending	5 items	2, 3, 6, 7, 14
	Memory	4 items	1, 5, 8, 22
	Retrieval	4 items	4, 9, 26, 29
2. Metacognitive strategies	Planning	6 items	10, 11, 19, 20, 23, 27
	Monitoring	6 items	12, 16, 17, 21, 24, 25
	Evaluating	5 items	13, 15, 18, 28, 30

BEHAVIOURAL ITEM EXAMPLE

Table 74.1. Behavioural Item

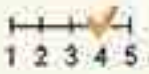
Construct	Reading behaviors
Monitoring is part of conscious processes that regulate reading processes. Monitoring is activated for checking ongoing comprehension.	I check if I understand what a text says. I double-check my comprehension when I come across new information in text. I tell myself to pay attention to my reading. I notice when I am confused in my reading.

ITEM TYPE MODULES

(The Measuring Tools)

1. Dichotomous:
Binary choices (Yes/No)

2. Likert-scale:
Measuring intensity of agreement (1 to 5)



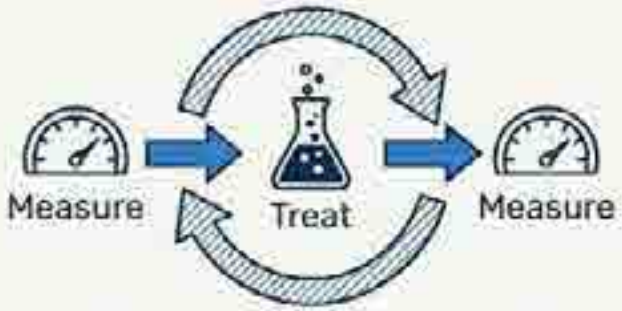
3. Ranking:
Assessing relative priority

4. Multiple-choice & Checklists: Categorical selections

5. Open-ended:
Capturing qualitative nuance

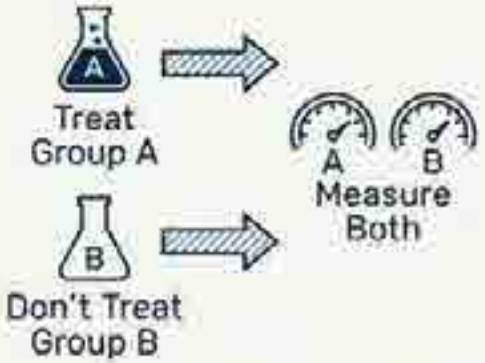
Choosing Your Blueprint (Pre- to True Experiments)

One-Group Pretest-Posttest (Pre-experimental)



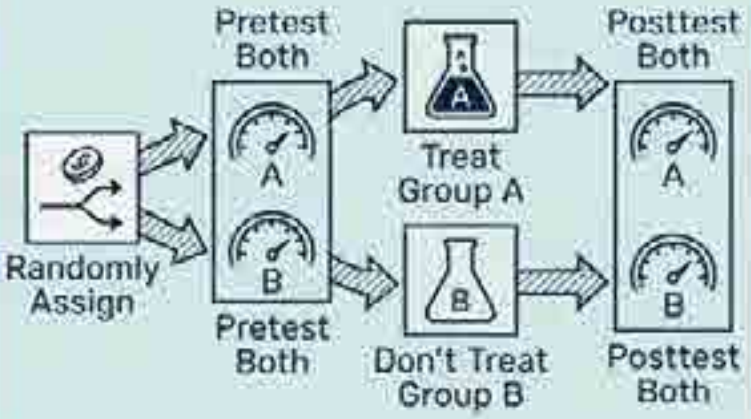
Flaw: No control group. Vulnerable to outside events over time.

Posttest-Only with Non-Equivalent Groups (Quasi-experimental)



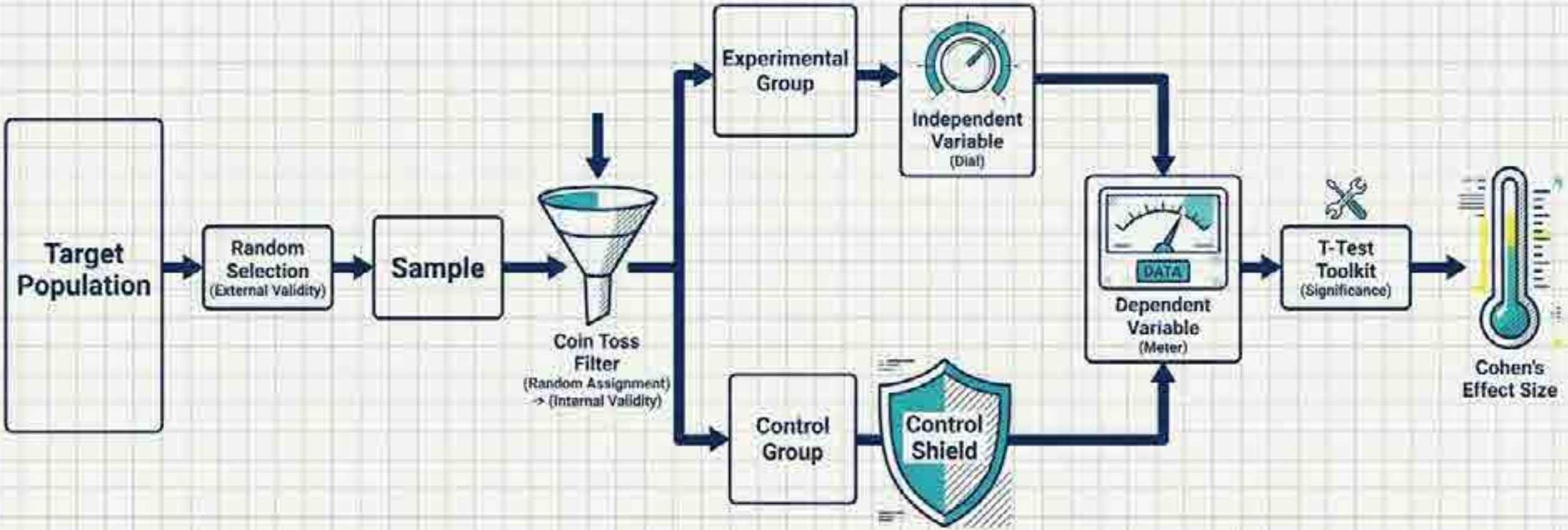
Flaw: No random assignment. Groups might have been different from the start.

Pretest-Posttest Control-Group (True Experiment)



Strength: The gold standard. Controls for almost all confounding variables.

The Anatomy of a True Experiment



When properly designed, this blueprint successfully isolates truth from noise, proving causality in language studies.

Activity 5: What is being correlated?

1. The relationship between *knowledge of English language grammar* and *reading comprehension*, expressed as scores on an English grammar test and an English reading test
2. The relationship between *IELTS scores* and *academic success of international students at an Australian university*, expressed as GPA at graduation.

Connecting a research question with hypothesis testing

Research Question 1: What is the correlation between vocabulary knowledge and reading ability among Grade 9 EALD students?

Hypothesis Testing Process:

1. **Set the Hypotheses**:
   - **Null Hypothesis (H_0):** There is no correlation between vocabulary knowledge and reading ability.
   - **Alternative Hypothesis (H_1):** There is a correlation between vocabulary knowledge and reading ability.
2. **Collect and Analyse Data**:
   - Use a sample of Grade 9 EALD students and measure their vocabulary knowledge and reading ability. Compute the correlation coefficient (e.g., Pearson's *r*).

Connecting a research question with hypothesis testing

3. **Apply the Significance Test**:
   - Compute a *p*-value to test whether the observed correlation is statistically significant.
4. **Decision**:
   - If the *p*-value is smaller than the significance level (e.g., $p < 0.05$), reject H_0 and conclude that a significant correlation exists. If not, fail to reject H_0 and conclude that there is insufficient evidence to support a correlation.

Key Insight: Hypothesis testing here allows researchers to determine whether the observed correlation is likely due to chance or represents a real relationship between the two variables.

Qualitative Research

Qualitative research

- Q**ualitative research** is a generic term for a variety of research approaches variously labelled as ‘ethnography’, naturalistic inquiry, case studies, interpretive research, fieldwork, field studies and participant observation among others.
- The ultimate goal of **qualitative research** is to portray in depth the complex pattern of what is being studied in sufficient depth and detail so that someone who has not experienced it can understand it.

Typical characteristics of qualitative research

- Concern for context and meaning
- Natural setting
- Human instrument
- Descriptive data
- Emergent design
- Inductive analysis, but may include statistical analysis or mixed or multiple methods analysis

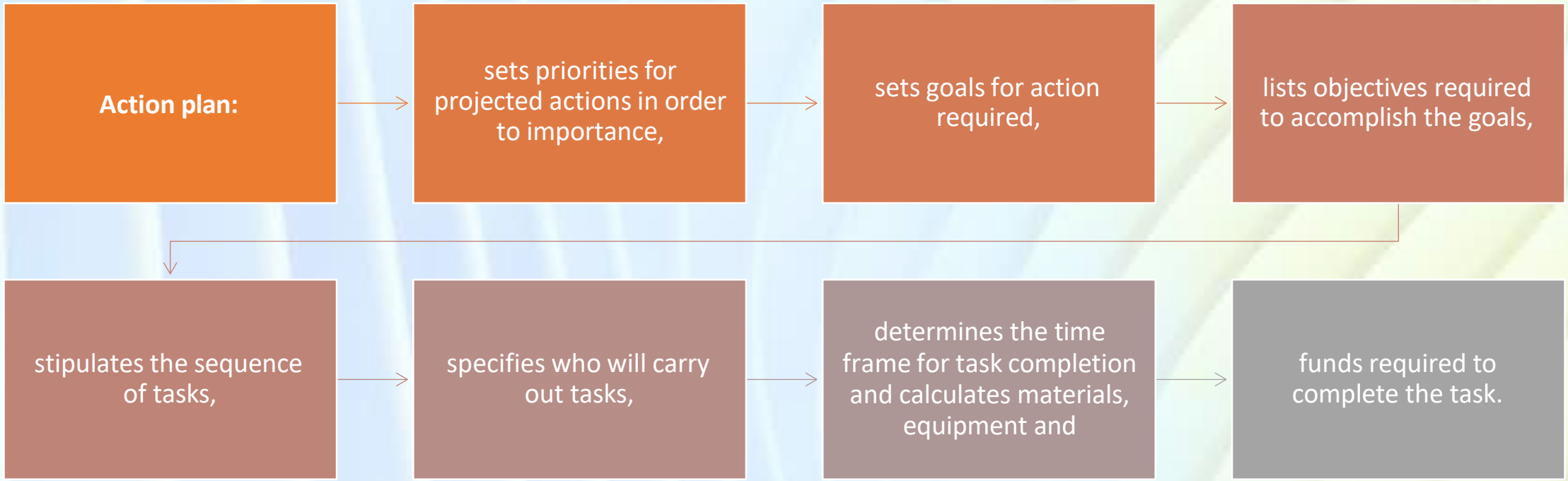
Qualitative research

Aspect	Qualitative
Purpose	to examine a phenomenon in rich detail
Design	Evolving during study
Approach	Inductive, generate or support theory
Tools	Qualitative techniques; face-to-face interaction; soft data
Sample	Small, qualitative
Analysis	Narrative, descriptive, interpretive

A case study

- focuses on a single unit
- has multidisciplinary roots (e.g., business, law, medicine)
- produces an in-depth description
- is anchored in real life
- provides a rich, holistic description of context, themes, issues
- uses multiple data collection techniques
- needs time to spend examining the unit of interest

Action plans in action research



Commonly used qualitative techniques

- Observation
- Fieldnotes
- Interviews (structured, semi-structured, open, focus group)
- Introspection/think-aloud protocols
- Retrospection/Stimulated recall protocols
- Written artifacts

Strengths and weaknesses of qualitative research

Qualitative strengths	Qualitative weaknesses
Useful for generating theories/hypotheses.	Relatively difficult to replicate findings.
Data collection can be done in a natural setting.	Data analysis is time-consuming.
Exploratory and finds new unexpected findings.	Appears to be imprecise and subjective.
Provides an insider's perspective (emic).	Irrelevant data may be collected and increase complexity and delays in data analysis.
Can adjust to changes during the study	Knowledge produced tends to be unique to a specific group or setting, making it difficult to apply in a new context.
Useful for studying a small sample size.	Tends to ignore general group behaviours or tendencies.
Can describe and explain data plainly and authentically (stories, anecdotal, quotes).	Results may be perceived as low credibility by decision-makers with a power position.

5-min Break

Appendix A: Recommended further reading

Applied Linguistics Research Methods

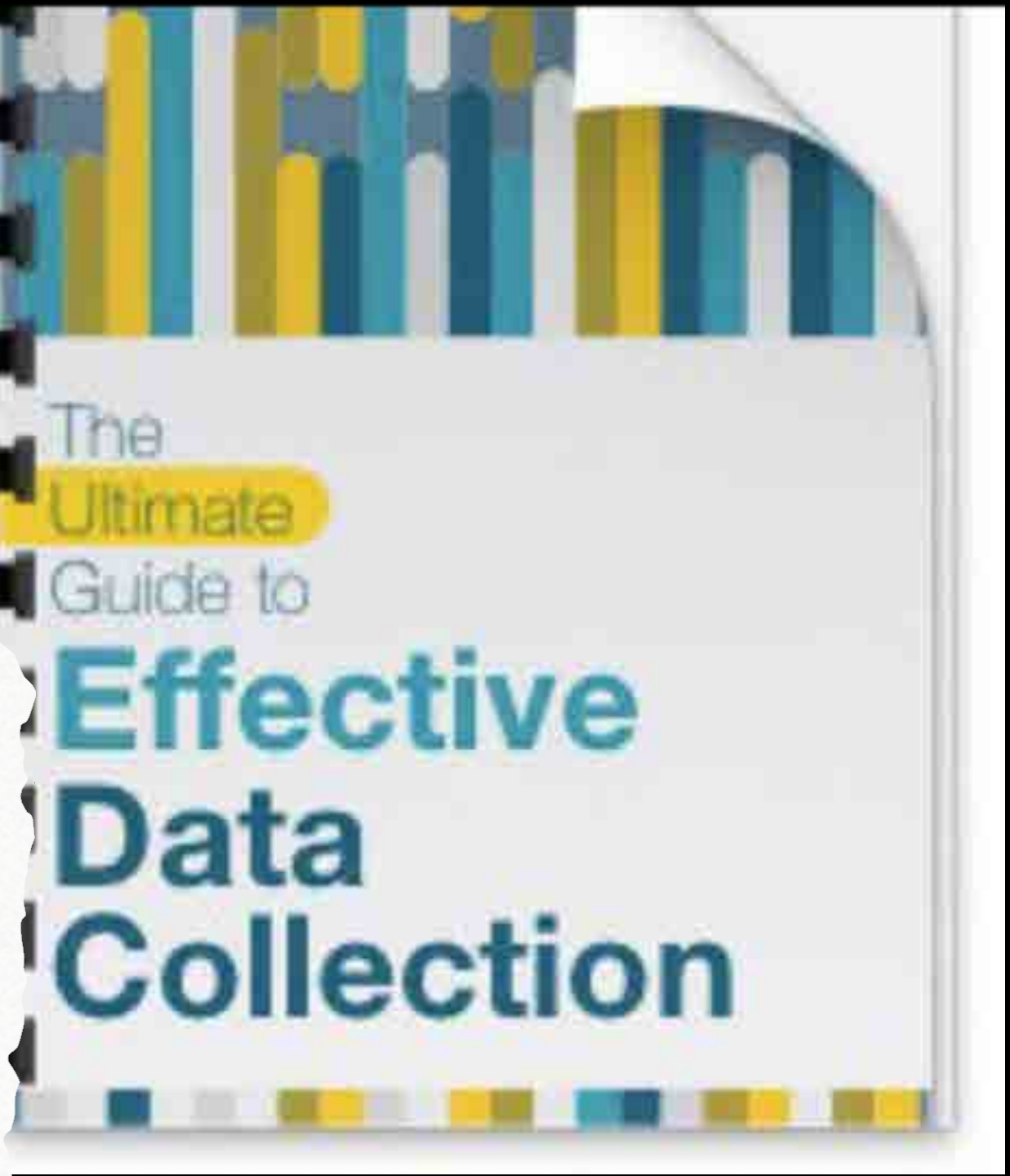
Recommended readings (Quantitative)

https://doi.org/10.1007/978-981-13-9132-3

Recommended readings (Qualitative)

Recommended readings (Mixed)

Appendix B: Data collection techniques



Tests

- Focus on products
- A measure that asks research participants to respond to language questions or tasks.
- Performances or responses are scored or evaluated either objectively or subjectively.
- Restricted response techniques (e.g., multiple-choice, true/false)
- Constructed response techniques (e.g., essays, interviews)
- Paper-based; computer-based
- Difficult to construct a good test
- Need to consider and develop test specifications and pilot a test before use.

Questionnaires

- Widely used for collecting large amounts of structured self-report data
- Often numerical and quantitative-oriented
- Make self-report data easily analysable
- Allow researchers to tap people's views and experiences of language learning or use processes
- Useful for exploratory studies into language learning or use attitudes or beliefs and behaviours
- Useful for identifying issues that can be followed-up later by more in-depth methods.

Interviews

- Offer flexibility and greater potential for elaboration and detail.
- Tend to be more qualitative and heuristic
- More interactive and less predetermined modes of eliciting information
- Represent a very different way of understanding human experience
- Participants can discuss their interpretations and perspectives, sharing what a particular language activity means to them rather than responding to preconceived categories.
- Time-consuming, including transcription and analysis
- Data analysis is open and often loose (no one way of analysing data).
- Require coding and categorising into themes (fixed or emerging).
- Validity depends on researchers' experiences of carrying out interviews and doing data analysis

Verbal Protocols

- Also known as think-aloud protocols.
- Involve research participants verbalizing thoughts about an activity.
- May be directed towards gaining insight into a specific aspect of language learning or use activities.
- Useful for shedding light on where and how participants experience difficulties as they are use or learn a given language.
- Can be collected either concurrently (i.e., while carrying on an activity) or retrospectively (i.e., after an activity).
- Verbalised thoughts are assumed to reflect the current content of short-term memory.
- Widely criticized for being disruptive to natural language or thought processes and for providing only a fragmentary representation of what actually goes on in an individual's mind.

Diaries

- Offer alternative way of gaining introspective data
- To reflect on participants' language learning or use experiences in a give context.
- First-person accounts of a language-using experience, documented through regular entries in a journal and then analysed for recurring patterns or significant events.
- To gain insights into participants' awareness of their language processes, strategy development, anxiety, learning goals and actions taken to improve their language performance or ability.
- Can be entirely open-ended or guided by the researcher through given prompts
- Fruitful when used over time.
- Can also serve as the stimulus for subsequent diary writing or interviews.
- Constrained by ethical considerations (e.g., student permission)
- Lack of generalisability

Observation

- Offer actual evidence of behaviours, interactions or physical engagement.
- Based on conscious noticing and precise recording of actions as a way of seeing these actions in a new light.
- Degrees of structure the researcher can impose on the data can range from simply checking pre-defined boxes at fixed intervals or every time a type of behaviour occurs to writing a full narrative of events.
- Privilege some behaviours and neglect others.
- Only record what researchers think is important.
- While a clear structure is easier to apply and yields more manageable data, such preselection may ignore relevant behaviour that wasn't predicted.
- Require good observation skills and ability to attention to both holistic pictures and details.
- Can be subjective.