COMMUNICATING ANALYSES: ASK BEFORE ADVISING

WEEK 13 · ESSENTIAL TEACHING IN CLASS

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TODAY: DEFEND THE EVIDENCE

Time	Work
12:30–12:45	Opening recall
12:45–13:05	Useful consulting questions
13:05–13:40	Consulting clinic
13:40–13:55	Break
13:55–14:35	Reproducibility relay
14:35–14:55	Follow-up design review
14:55–15:10	Break
15:10–16:00	Repair, rehearse and next actions

OPENING RECALL: TRACE YOUR MAIN RESULT

Show your main figure to a neighbour.

1. What is compared, when, and in which units?
2. Did researchers assign diets to individual animals or to whole pens? How many animals or pens received each diet?
3. What is one important uncertainty or limitation?

THE FIRST MESSAGE IS RARELY THE FULL QUESTION

A poultry researcher wants to compare diets. Their first message says:

“We measured 640 birds. Which diet is better?”

What could “measured”, “better”, and “640” mean?

ASK ABOUT THE OUTCOME

For the poultry researcher, “better” might mean faster growth or less feed used. Ask what was measured before choosing an analysis.

- Individual bird weight or a whole-pen summary?
- For a fraction: how many birds were affected, out of how many observed?
- Measurement period?
- Missing observations or removals?

ASK ABOUT ALLOCATION AND DEPENDENCE

Did researchers assign diets to individual animals or to whole pens? How did they choose which diet each animal or pen received?

Which records share a pen, animal, environment or time?

Draw the design before naming a model.

ASK ABOUT THE USEFUL COMPARISON

For lamb growth, specify which supplements to compare and the six-week gain in kg before looking at results.

Specify direction, time, population and units.

What magnitude matters biologically?

SEPARATE FACTS, ASSUMPTIONS AND UNKNOWNS

Status	How to communicate it
Documented	"Within each soil group, researchers assigned two paddocks to each supplement."
Provisional	"We assume lambs cannot reach another paddock's supplement."
Unknown	"We need to know why some lamb weights are missing."

RECOMMEND IN THE RESEARCHER'S LANGUAGE

Start with what can be answered.

Explain the outcome and design, estimate with uncertainty, diagnostic and limitation.

State one next useful action.

MINI CONSULTING CLINIC

Consultant · researcher · auditor.

Use case cards and the request worksheet.

Ask targeted questions. Write a response of at most 120 words.

SHARE WHAT CHANGED YOUR RECOMMENDATION

Which question mattered most?

Which unknown remains, and why does it matter?

Break 13:40–13:55.