Scientific English for Researchers

Writing, reviewing and presenting research in English

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Preface

About this book

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About this PDF version

This is the version for reading and printing. Self-assessment questions are shown without automatic marking and the interactive activities appear on paper with their solutions; the labs only work on the web. To do the exercises with feedback and answer the questions, use the web version: https://pablosancheznunez.com/scientific-english/.

English is the main language of international research. For most researchers in the world it is a second (or third) language, and writing, reviewing and presenting in it takes extra time and effort. Amano et al. (2023) surveyed researchers in environmental sciences from many countries and found that non-native speakers

spend substantially more time reading, writing and preparing presentations in English, and are more likely to have papers rejected or sent back for revision because of the language. This is a structural inequality of the research system, not a personal failing. This book cannot remove it, but it can make the work faster and the results clearer.

It is written for doctoral students and researchers in any field, with particular attention to the difficulties of Spanish speakers. It does not teach general English: it focuses on the genres researchers need (articles, abstracts, reviews, cover letters, emails, talks) and on the evidence about what makes scientific texts clear.

How to cite this book

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Further reading

- Amano et al. (2023)

Map of the book

Chapter	Question
1. The architecture of a research article	How are articles and abstracts structured, and why?
2. Clear sentences	How do I write sentences readers understand on the first reading?
3. Hedging and stance	How strongly should I claim my results?
4. Common errors and false friends	Which mistakes do Spanish speakers make, and how do I avoid them?
5. Peer review and correspondence	How do I write cover letters, reviews and responses to reviewers?
6. Presenting and networking	How do I give talks, handle questions and talk to colleagues in English?

Each chapter has objectives, a glossary, a required reading with a DOI, labs that run in your browser, activities with instant feedback, an assignment and a self-assessment. The Phrasebank collects useful expressions for every section of a paper. Your progress is saved only in your browser.

A note on AI tools

Language tools and AI assistants can help you edit, but they can also introduce errors, change your meaning or invent references. Use them as an editor, not as an author: check every change, keep your own voice, and follow the journal's policy on disclosing their use.

Chapter 1. The architecture of a research article

Objectives

- Describe the IMRaD structure and the purpose of each section.
- Identify the rhetorical moves of introductions and abstracts.
- Plan a paper around one central contribution.

Chapter glossary

IMRaD · Rhetorical move · CARS model · Research gap · Structured abstract · Context-content-conclusion

Downloads

Assignment template (.qmd)

Required reading

Mensh, B.; Kording, K. (2017). Ten simple rules for structuring papers. *PLOS Computational Biology*, 13(9), e1005619.

1. One paper, one message

Mensh & Kording (2017) start with the most important rule: **focus your paper on a single central contribution**, which you can state in the title. Everything else serves that message. If you cannot write it in one sentence, the paper is not ready to be written.

They also recommend writing for the **naive human reader**: someone intelligent but outside your sub-field, who reads quickly and remembers little. Short sentences, defined terms and a logical flow help experts too.

2. IMRaD

Section	Question it answers	Typical verb tense
Introduction	Why does this matter, what is unknown, what did you do?	Present (known facts), past (previous studies), present (aim)
Methods	How exactly did you do it?	Past, often passive or “we”
Results	What did you find?	Past
Discussion	What does it mean, how does it fit, what are the limits?	Present for interpretation, past for your findings

Mensh and Kording suggest a **context-content-conclusion** scheme at every level: the paper, each section and each paragraph start by giving context, present the content and end with a conclusion. The first sentence of a paragraph should announce its message; the last should close it.

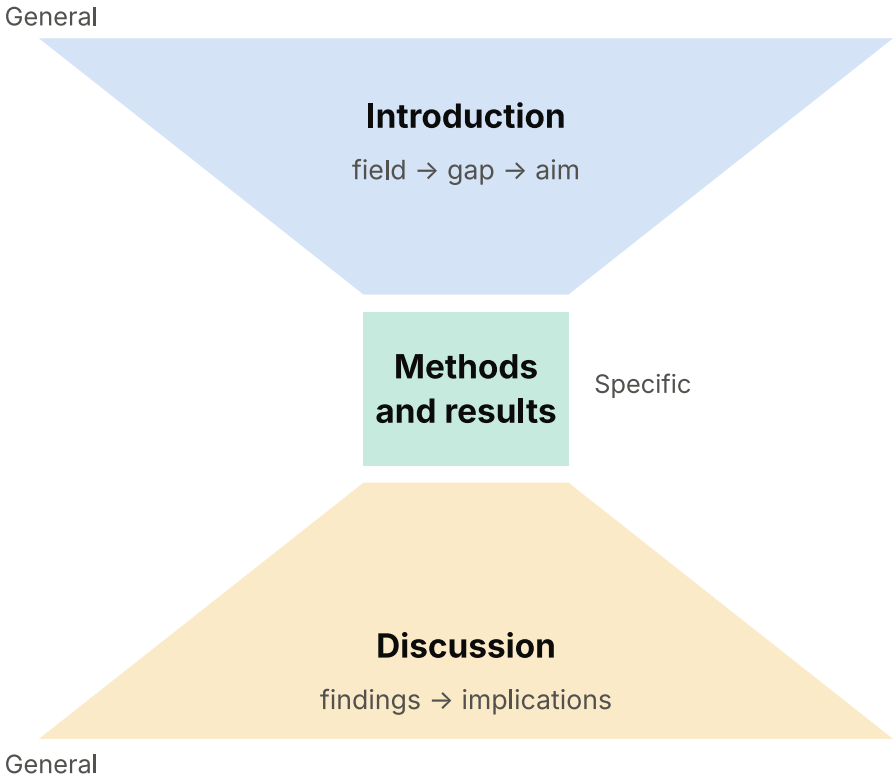

Figure 1: The hourglass shape of a research article: broad context, a narrow question and methods, and a widening discussion.

3. The introduction: Swales's CARS model

John Swales's analysis of introductions, the **CARS** model (*Create a Research Space*), describes three **rhetorical moves**:

1. **Establish a territory**: show that the topic is important and summarise what is known.
2. **Establish a niche**: show a **gap**, a problem, a contradiction or an unanswered question.
3. **Occupy the niche**: state your aim, what you did and (often) what you found.

Example:

> *Doctoral attrition rates exceed 30% in many countries* (territory). *However, most studies rely on cross-sectional surveys, and little is known about how supervision changes over time* (niche). *Here, we followed 1,200 doctoral students for five years to examine…* (occupy).

4. The abstract

Many journals ask for a **structured abstract** (Background, Methods, Results, Conclusions). Even when they do not, a good abstract follows the same moves in 150-250 words: context and gap, aim, methods, main results **with numbers**, and the main conclusion. Avoid references, undefined abbreviations and vague promises such as "results are discussed".

Worked example

From a vague abstract to a structured one

Before: "This paper studies doctoral supervision. Data were collected and analysed. Several interesting results were found, which are discussed in relation to the literature."

After: > *Background:* About one in three doctoral students leave before completing. *Aim:* We examined whether supervision quality predicts completion better than funding. *Methods:* We followed 1,200 doctoral students at 14 Spanish universities for five years. *Results:* Students reporting high-quality supervision were half as likely to drop out (hazard ratio 0.51, 95% CI 0.40–0.65); funding had a smaller effect. *Conclusions:* Doctoral programmes should invest in supervisor training as well as funding.

The second version states the gap, the method, numbers and a conclusion a reader can act on.

Graded exercises

Basic. Which CARS move is missing from this introduction: "Open data is important. Here, we survey 500 researchers about their data-sharing practices."?

Explanations

Move 2, establishing a niche: there is no gap or problem that justifies the survey (for example, "However, little is known about…").

Advanced. Rewrite the abstract of one of your papers as a structured abstract of no more than 250 words, with numbers in the results.

Explanations

Check that each part answers its question (why, what, how, what was found, so what) and that the results include effect sizes or key figures, not only directions.

Activities

Activity: Put the introduction moves in order

- Here, we report a randomised experiment in which author affiliations were hidden from half of the reviewers
- However, these studies are observational and cannot separate prestige from quality
- Research on peer review has grown rapidly in the last decade
- Several studies suggest that reviewers favour prestigious institutions
- We find that hiding affiliations reduced the acceptance advantage of prestigious institutions by half

Solution

1. Research on peer review has grown rapidly in the last decade
2. Several studies suggest that reviewers favour prestigious institutions
3. However, these studies are observational and cannot separate prestige from quality
4. Here, we report a randomised experiment in which author affiliations were hidden from half of the reviewers
5. We find that hiding affiliations reduced the acceptance advantage of prestigious institutions by half

Activity: Which section does each sentence belong to?

Categorías: Introduction · Methods · Results · Discussion

- "Little is known about how open data mandates affect data reuse."
- "We downloaded all articles published between 2015 and 2024 from OpenAlex."
- "Reuse increased by 18 percentage points after the mandate."
- "These findings suggest that mandates work best when combined with support."
- "Participants were excluded if they had not completed the questionnaire."
- "Unlike previous studies, we found no effect of gender."

Solution

- "Little is known about how open data mandates affect data reuse." → **Introduction**
- "We downloaded all articles published between 2015 and 2024 from OpenAlex." → **Methods**
- "Reuse increased by 18 percentage points after the mandate." → **Results**
- "These findings suggest that mandates work best when combined with support." → **Discussion**
- "Participants were excluded if they had not completed the questionnaire." → **Methods**
- "Unlike previous studies, we found no effect of gender." → **Discussion**

Activity: Which CARS move?

Categorías: Establish a territory · Establish a niche · Occupy the niche

- "Reproducibility is a cornerstone of science."
- "Yet no study has examined reproducibility in the humanities."
- "In this paper, we audit 300 humanities articles."
- "Previous research has focused almost exclusively on psychology."

Solution

- "Reproducibility is a cornerstone of science." → **Establish a territory**
- "Yet no study has examined reproducibility in the humanities." → **Establish a niche**
- "In this paper, we audit 300 humanities articles." → **Occupy the niche**
- "Previous research has focused almost exclusively on psychology." → **Establish a niche**

Assignment

! Challenge for chapter 1 · Map and rewrite

1. Choose a recent article in your field and label every sentence of its introduction with a CARS move.
2. Write the **central contribution** of your current research in one sentence and turn it into a title.
3. Write a 200-word structured abstract for your research, with numbers in the results.

Submission: use the assignment template. This challenge **has no solution in the book**.

Self-assessment

Answer on paper and then check with the explanations in the box. In the web version these questions are marked automatically. They do not count towards your grade.

1. According to Mensh & Kording (2017), a paper should focus on *[as many contributions as possible / a single central contribution / the methods]*
2. In the CARS model, showing a gap in the literature is "establishing a _____"
3. The Methods section is usually written in the past tense. *[T / F]*
4. A good abstract should include the main results with numbers. *[T / F]*
5. The scheme recommended for papers, sections and paragraphs is context-content- _____
6. "Results are discussed" is an informative final sentence for an abstract. *[T / F]*
7. CARS stands for Create a Research _____
8. Who is the "naive human reader"?

(a) A reviewer in your sub-field (b) An intelligent reader outside your sub-field who reads quickly (c) A student with no scientific training

Explanations

- One message, stated in the title.
- Move 2.
- You report what you did.
- Concrete findings.
- At every level.
- It says nothing.
- John Swales.
- Writing for them helps everyone.

Chapter 2. Clear sentences

Objectives

- Apply reader-expectation principles: topic and stress positions, old-to-new information.
- Reduce nominalisations, unnecessary passives and wordy phrases.
- Measure and improve the readability of your own text.

Chapter glossary

Readability · Topic position · Stress position · Nominalisation · Passive voice · Plain language

Downloads

Assignment template (.qmd)

Required reading

Plavén-Sigray, P.; Matheson, G. J.; Schiffler, B. C.; Thompson, W. H. (2017). The readability of scientific texts is decreasing over time. *eLife*, 6, e27725.

1. Scientific texts are getting harder to read

Plavén-Sigray et al. (2017) analysed more than 700,000 abstracts from biomedical and life-science journals published between 1881 and 2015. Readability, measured with standard formulas, **decreased steadily**, partly because of more general scientific jargon ("robust", "underlying", "novel") and longer sentences. Hard-to-read texts reduce the reach and the reproducibility of research: a method that cannot be understood cannot be repeated.

2. Readers' expectations

Gopen and Swan's classic advice on scientific writing can be summarised in a few principles:

- **Subject and verb close together and early.** Readers wait for the verb; a long subject delays understanding.
- **Topic position** (the beginning of a sentence) holds **old information** that links to what came before.
- **Stress position** (the end of the sentence) holds the **new, important information**.
- **One main idea per sentence.** Long sentences are not wrong; long sentences that hide the action are.

> **Hard:** *The determination of the extent to which open data mandates were associated with increases in data reuse across disciplines was the aim of this study.*
>
> **Clear:** *We examined whether open data mandates increased data reuse across disciplines.*

3. Three habits that cloud sentences

Habit	Example	Better
Nominalisation (verbs turned into nouns: *-tion, -ment, -ance*)	*We performed an analysis of the data.*	*We analysed the data.*
Unnecessary passive	*It was found by the authors that…*	*We found that…*
Wordy phrases	*due to the fact that; in order to; a large number of*	*because; to; many*

The passive is not forbidden: it is useful when the agent is unknown or irrelevant (*Samples were stored at −80 °C*). Many journals now encourage *we* for the authors' actions.

Lab: readability checker

> **i** Interactive lab
>
> Paste a paragraph. The lab estimates the Flesch Reading Ease score (higher = easier; most scientific abstracts score below 30), the average sentence length, and highlights nominalisations, passive constructions and wordy phrases.
>
> This lab is interactive in the web version: pablosancheznunez.com/scientific-english

Worked example

> **i** Editing a paragraph step by step
>
> **Original (52 words):** "The implementation of an evaluation of the effectiveness of the mentoring programme was carried out by the research team, and it was found that there was a significant reduction in the level of anxiety of the participants due to the fact that they had access to regular meetings."
>
> 1. Find the real action: *evaluate*. Make it a verb with a subject: *We evaluated…*
> 2. Replace wordy phrases: *due to the fact that* → *because*.
> 3. Turn nominalisations into verbs: *a reduction in the level of anxiety* → *anxiety fell*.
> 4. Put new information at the end: *…because they met their mentors regularly*.
>
> **Edited (20 words):** "We evaluated the mentoring programme and found that participants' anxiety fell significantly, probably because they met their mentors regularly."

Graded exercises

Basic. Rewrite: "An increase in the number of citations was observed."

> Explanations
>
> "Citations increased." or, with an agent, "We observed that citations increased."

Advanced. Edit a paragraph of your own writing with the four steps of the case and compare the readability scores before and after in the lab.

> Explanations
>
> Report the word count and the score before and after, and explain each change. Check that no technical precision was lost.

Activities

i Activity: Which version is clearer?

Categorías: Clearer · Less clear

- "We analysed the data."
- "An analysis of the data was performed."
- "Attrition fell because supervisors met students monthly."
- "A reduction in attrition was observed due to the fact that meetings were more frequent."

Solution

- "We analysed the data." → **Clearer**
- "An analysis of the data was performed." → **Less clear**
- "Attrition fell because supervisors met students monthly." → **Clearer**
- "A reduction in attrition was observed due to the fact that meetings were more frequent." → **Less clear**

i Activity: Is the passive appropriate here?

Categorías: Appropriate · Better active

- "Samples were stored at −80 °C."
- "It was decided by the authors to exclude outliers."
- "The survey was translated into Spanish by two bilingual researchers."
- "It is believed by us that the effect is real."

Solution

- "Samples were stored at −80 °C." → **Appropriate**. The agent does not matter.
- "It was decided by the authors to exclude outliers." → **Better active**. "We excluded outliers."
- "The survey was translated into Spanish by two bilingual researchers." → **Appropriate**. Focus on the survey; the agent is still given.
- "It is believed by us that the effect is real." → **Better active**

Assignment

! Challenge for chapter 2 · Make it readable

1. Take the abstract of your latest paper or draft and analyse it with the lab.
2. Rewrite it, reducing nominalisations, unnecessary passives and wordy phrases, without changing the meaning or losing precision.
3. Report the readability before and after and explain three changes.

Submission: use the assignment template. This challenge **has no solution in the book**.

Self-assessment

Answer on paper and then check with the explanations in the box. In the web version these questions are marked automatically. They do not count towards your grade.

1. Plavén-Sigray et al. (2017) found that the readability of scientific abstracts has *[increased / decreased / not changed]* over time
2. New, important information should go in the _____ position at the end of the sentence
3. "We performed an analysis of the data" contains a nominalisation. *[T / F]*
4. The passive voice should never be used in scientific writing. *[T / F]*
5. "Due to the fact that" can usually be replaced by _____
6. A higher Flesch Reading Ease score means *[harder text / easier text / longer text]*
7. Subject and verb should be close together and early in the sentence. *[T / F]*
8. Why does readability matter for research?

(a) It only matters for popular science (b) Hard-to-read texts reach fewer readers and are harder to reproduce (c) Journals reject all difficult texts

Explanations

- Longer sentences and more general jargon.
- The topic position holds old information.
- "We analysed the data."
- Useful when the agent is unknown or irrelevant.
- And "in order to" by "to".
- Above 60 is plain English.
- Readers wait for the verb.
- Clarity serves reproducibility.

Chapter 3. Hedging and stance

Objectives

- Recognise hedges, boosters and other stance markers in scientific texts.
- Calibrate the strength of claims to the strength of the evidence.
- Avoid both overclaiming and excessive hedging.

Chapter glossary

Hedge · Booster · Stance · Overclaiming · Reporting verb

Downloads

Assignment template (.qmd)

Required reading

Hyland, K. (1996). Writing without conviction? Hedging in science research articles. *Applied Linguistics*, 17(4), 433-454.

1. Why researchers hedge

Hyland (1996) analysed hedging in research articles in cell and molecular biology and showed that it is not a sign of weakness but a central feature of scientific argument. **Hedges** (*may, might, suggest, possibly, appear to, likely*) do two jobs: they state claims **accurately**, matching them to the evidence, and they show **respect for the reader** and the community, leaving room for disagreement. **Boosters** (*clearly, demonstrate, undoubtedly, it is well known that*) do the opposite: they express certainty.

Good scientific writing calibrates: strong evidence, strong verbs; weak or indirect evidence, cautious verbs.

Strength	Verbs and expressions	Use when
Strong	*show, demonstrate, establish, confirm*	Robust, replicated evidence, ideally causal
Moderate	*indicate, suggest, support*	Good evidence with limits (observational, single study)
Tentative	*may, might, could, possibly, it is possible that*	Speculation, interpretation, future directions

2. Overclaiming and spin

Overclaiming (saying more than the data allow) is common in abstracts and press releases: causal language for correlational data ("X **causes** Y" instead of "X is **associated with** Y"), generalising from a sample to a population, or calling a non-significant result "a trend towards significance". Reviewers and readers notice, and it damages credibility.

But **excessive hedging** is also a problem, especially for non-native writers who learn that caution is safe: "*It might possibly be suggested that the results could perhaps indicate…*" says nothing. One hedge per claim is usually enough.

3. Reporting other people's work

Reporting verbs carry your stance towards a source:

- **Neutral:** *Smith (2020) reports / describes / finds that…*
- **Positive:** *Smith (2020) shows / demonstrates / establishes that…* (you accept the claim)
- **Critical or distant:** *Smith (2020) claims / asserts / argues that…* (you leave room for doubt)

Lab: hedges and boosters

> **i** Interactive lab
>
> This lab is interactive in the web version: pablosancheznunez.com/scientific-english

Worked example

> **i** Calibrating a discussion paragraph
>
> **Original:** "Our results prove that mentoring causes better completion rates and clearly demonstrate that all universities must implement mentoring programmes."
>
> Evidence: one observational cohort study in one country.
>
> **Calibrated:** "Our results suggest that mentoring is associated with higher completion rates. Because the study was observational, we cannot rule out that more motivated students sought mentors. If confirmed in experimental studies, these findings would support investing in mentoring programmes."
>
> Changes: *prove* → *suggest*; *causes* → *is associated with*; the alternative explanation is stated; the recommendation becomes conditional.

Graded exercises

Basic. Replace the booster in: "This method undoubtedly outperforms all previous approaches."

> Explanations
>
> For example: "In our tests, this method outperformed the three approaches we compared it with." It states the evidence instead of asserting certainty.

Advanced. Take the conclusions of a paper in your field and rewrite them so that each claim matches the strength of its evidence.

> Explanations
>
> Identify the design of each piece of evidence (experimental, observational, replicated) and choose verbs accordingly; add limitations where the evidence is indirect.

Activities

Activity: Hedge or booster?

Categorías: Hedge · Booster

- suggest
- demonstrate
- it is possible that
- undoubtedly
- appear to
- it is well known that

Solution

- suggest ⟶ **Hedge**
- demonstrate ⟶ **Booster**
- it is possible that ⟶ **Hedge**
- undoubtedly ⟶ **Booster**
- appear to ⟶ **Hedge**
- it is well known that ⟶ **Booster**

Activity: Is the claim calibrated to the evidence?

Categorías: Calibrated · Overclaims

- One cross-sectional survey: “Social media use causes anxiety in doctoral students.”
- One cross-sectional survey: “Social media use was associated with anxiety.”
- Three preregistered replications: “These results establish that the effect is robust.”
- A pilot with 12 participants: “The intervention is effective for all students.”

Solution

- One cross-sectional survey: “Social media use causes anxiety in doctoral students.” ⟶ **Overclaims**
- One cross-sectional survey: “Social media use was associated with anxiety.” ⟶ **Calibrated**
- Three preregistered replications: “These results establish that the effect is robust.” ⟶ **Calibrated**
- A pilot with 12 participants: “The intervention is effective for all students.” ⟶ **Overclaims**

Assignment

! Challenge for chapter 3 · Calibrate your claims

1. Analyse the discussion section of one of your papers or drafts with the lab.
2. For each main claim, describe the evidence that supports it (design, sample, replication) and decide whether the verb is too strong, too weak or right.
3. Rewrite the paragraph with calibrated claims and explain your changes.

Submission: use the assignment template. This challenge **has no solution in the book**.

Self-assessment

Answer on paper and then check with the explanations in the box. In the web version these questions are marked automatically. They do not count towards your grade.

1. Hyland (1996) argues that hedging is a sign of weak writing. *[T / F]*
2. Words that express certainty, such as "clearly", are called _____
3. For a correlational study, the best verb is *[causes / is associated with / proves]*
4. "Smith (2020) claims that…" expresses a *[positive / distant or critical / neutral]* stance
5. Excessive hedging can make a text say nothing. *[T / F]*
6. "Demonstrate" is appropriate for robust, replicated evidence. *[T / F]*
7. Calling a non-significant result "a trend towards significance" is an example of _____
8. What is the main function of hedges according to Hyland?

(a) To hide weak results (b) To state claims accurately and show respect for readers and the community (c) To make texts longer

Explanations

- It is central to scientific argument.
- They express certainty.
- Causal language needs causal designs.
- You leave room for doubt.
- One hedge per claim is usually enough.
- Strong evidence, strong verbs.
- Presenting results more favourably than they are.
- Accuracy and politeness.

Chapter 4. Common errors and false friends

Objectives

- Avoid the most frequent errors of Spanish speakers in academic English.
- Recognise false friends and uncountable nouns used in research.
- Build your academic vocabulary with the Academic Word List.

Chapter glossary

False friend · Uncountable noun · Academic Word List · Collocation · Calque

Downloads

Assignment template (.qmd)

Required reading

Coxhead, A. (2000). A new academic word list. *TESOL Quarterly*, 34(2), 213-238.

1. False friends

False friends look like Spanish words but mean something different. Some appear constantly in research writing:

English word	Actually means	For the Spanish meaning, use
actual	real	*current* (actual)
actually	in fact	*currently* (actualmente)
eventually	in the end, finally	*possibly, occasionally* (eventualmente)
sensible	reasonable	*sensitive* (sensible)
assist	help	*attend* (asistir a)
pretend	act as if	*intend, aim* (pretender)
contrast (verb)	compare to show differences	*test, check* (contrastar hipótesis)
realise	become aware	*carry out, conduct* (realizar)
argument	line of reasoning	*plot* (argumento de una película)
formation	how something forms	*training* (formación)
thesis	doctoral dissertation (or an argued claim)	also *dissertation*; for a master's, often *thesis* or *dissertation*

2. Uncountable nouns

These nouns have **no plural** and do not take *a/an*: **research, evidence, information, equipment, software, feedback, advice, knowledge, progress, work** (in the sense of effort). *Data* is plural in traditional usage (*these data are*) but often singular today (*this data is*); be consistent and follow the journal.

- × *several researches* → ✓ *several studies / much research*
- × *an evidence* → ✓ *a piece of evidence / some evidence*
- × *softwares* → ✓ *software packages / tools*

3. Other frequent errors

Error	Example	Correct
Articles with general plurals	*The students often drop out.* (meaning students in general)	*Students often drop out.*
Missing subject	*Is important to note…*	*It is important to note…*
"Make" calques	*make a research, make a question*	*do/conduct research, ask a question*
Adjective order and plurals	*differents methods*	*different methods*
Prepositions	*depend of, consist in, interested on*	*depend on, consist of, interested in*
Comma before *that*	*We found, that…*	*We found that…*
Numbers	*1.200 participants, 3,5 %*	*1,200 participants, 3.5%*

4. Academic vocabulary

1 compiled the **Academic Word List** (AWL): 570 word families that are frequent across academic disciplines but not in general English (*analyse, approach, assess, concept, data, establish, factor, interpret, method, significant…*). Together they made up around 10% of the words in her corpus of academic texts. Learning them, with their typical **collocations** (*conduct a study, draw a conclusion, raise a question, address a gap*), pays off more than learning rare technical terms.

Lab: Spanglish detector

ℹ Interactive lab

This lab is interactive in the web version: pablosancheznunez.com/scientific-english

Worked example

ℹ Correcting a paragraph by a Spanish speaker

Original: "Actually, the researches about this topic are scarce. In this work we have realised an study with 1.250 students, which consisted in a survey. The informations obtained depend of the faculty."

Corrected: "Research on this topic is currently scarce. In this study, we conducted a survey of 1,250 students. The information obtained depends on the faculty."

Errors fixed: *actually* (false friend) → *currently*; *researches* (uncountable) → *research*; *realised* (false friend) → *conducted*; *an study* → *a study*; *1.250* → *1,250*; *consisted in* → (restructured); *informations* → *information*; *depend of* → *depends on*.

Graded exercises

Basic. Correct: "The equipments were sensible to the temperature."

Explanations

"The equipment was sensitive to temperature." (equipment is uncountable; sensible → sensitive).

Advanced. Build your personal list of ten frequent errors from your own texts, with the correction and an example sentence for each.

Explanations

Classify them (false friends, uncountables, prepositions, articles, punctuation) and review the list before submitting any text in English.

Activities

Activity: What does it mean in English?

Categorías: Correct use · False friend error

- "We conducted a survey to test the hypothesis."
- "Actually, 30% of students work part-time." (meaning *currently*)
- "Eventually, the method was adopted by most laboratories." (meaning *in the end*)
- "Participants assisted to three workshops."
- "The instrument is sensible to small changes."

Solution

- "We conducted a survey to test the hypothesis." → **Correct use**
- "Actually, 30% of students work part-time." (meaning *currently*) → **False friend error**
- "Eventually, the method was adopted by most laboratories." (meaning *in the end*) → **Correct use**
- "Participants assisted to three workshops." → **False friend error**
- "The instrument is sensible to small changes." → **False friend error**. Use «sensitive».

Activity: Correct or incorrect?

Categorías: Correct · Incorrect

- "Much research has been done on this topic."
- "Several researches show this effect."
- "We received useful feedback."
- "Two evidences support the model."
- "The software packages were open source."

Solution

- "Much research has been done on this topic." → **Correct**
- "Several researches show this effect." → **Incorrect**
- "We received useful feedback." → **Correct**
- "Two evidences support the model." → **Incorrect**
- "The software packages were open source." → **Correct**

Assignment

! Challenge for chapter 4 · Your personal error list

1. Analyse two pages of your own English writing with the lab and by hand.
2. Build a personal list of your ten most frequent errors, with the correct form and an example.
3. Choose 20 AWL words you do not yet use actively and write one sentence about your research with each, using typical collocations.

Submission: use the assignment template. This challenge **has no solution in the book**.

Self-assessment

Answer on paper and then check with the explanations in the box. In the web version these questions are marked automatically. They do not count towards your grade.

1. "Actually" in English means *[currently / in fact / eventually]*
2. "Research" is an uncountable noun. *[T / F]*
3. The correct preposition is "depend _____"
4. In English, 1,200 means one thousand two hundred. *[T / F]*
5. The Spanish "realizar un estudio" is best translated as *[realise a study / conduct a study / make a study]*
6. The Academic Word List was compiled by _____
7. "Differents methods" is grammatically correct. *[T / F]*
8. Why learn the Academic Word List?

(a) It contains rare technical terms (b) Its words are frequent across academic disciplines and cover a significant share of academic texts (c) Journals require it

Explanations

- "Currently" is "actualmente".
- "Several studies" or "much research".
- And "consist of".
- Decimal point, thousands comma.
- Or "carry out".
- 1.
- English adjectives have no plural.
- 570 word families, about 10% of her corpus.

Chapter 5. Peer review and correspondence

Objectives

- Write cover letters and academic emails with the right tone and structure.
- Write a constructive peer review.
- Respond to reviewers clearly, politely and completely.

Chapter glossary

Cover letter · Response to reviewers · Major and minor revision · Politeness strategies · Rebuttal

Downloads

Assignment template (.qmd)

Required reading

Noble, W. S. (2017). Ten simple rules for writing a response to reviewers. *PLOS Computational Biology*, 13(10), e1005730.

1. Cover letters

A cover letter to an editor is short (one page) and answers three questions: **what** you are submitting, **why** it matters to this journal's readers, and **formal statements** (originality, no simultaneous submission, conflicts of interest, data availability). Do not repeat the abstract.

> Dear Dr Smith,
>
> Please find attached our manuscript "Supervision quality predicts doctoral completion: a five-year cohort study", which we submit for consideration as a Research Article in *Higher Education*.
>
> Most studies of doctoral attrition are cross-sectional. Following 1,200 students for five years, we show that changes in supervision quality predict completion better than funding. These findings will interest readers working on doctoral education policy.
>
> The manuscript has not been published or submitted elsewhere. All authors approved it and declare no conflicts of interest. Data and code are available at [DOI].
>
> Yours sincerely,

2. Writing a review

A useful review has a clear structure: a **summary** of the paper's claims (to show you understood them), the **main concerns** (validity, methods, interpretation), **minor points**, and, if the journal asks, a recommendation. Be specific ("the model does not control for cohort; please add it or explain why not") and kind: criticise the work, not the authors. Avoid asking for a different paper.

3. Responding to reviewers

Noble (2017) offers rules that turn a stressful task into a manageable one. The most important:

- **Provide an overview**, then respond to **every point**, quoting each comment in full.
- **Be polite and respectful** to all reviewers, even when they are wrong.
- **Accept the blame** when the reviewer misunderstood: it usually means the text was unclear, so clarify it.

- **Make the response self-contained**: the editor should not need to search the manuscript; quote the changed text.
- **Respond to the reviewer's intent**, not only the literal request.
- **Be clear about what changed**, with page and line numbers.
- When you disagree, give **evidence and reasons**, and consider doing the requested analysis anyway (perhaps in the supplement).

Instead of	Write
The reviewer is wrong.	*We respectfully disagree, because…*
This was already explained.	*We have clarified this point in the Methods (p. 6, lines 120-128).*
We do not have time to do this.	*This analysis is beyond the scope of this study, but we now mention it as a limitation (p. 15).*

4. Academic emails

Short, with a clear subject line and the request in the first two sentences. Formal openings (*Dear Professor García,*), a polite request (*Would you be able to…? I would be grateful if…*) and a closing (*Best regards, / Kind regards,*). Avoid Spanish calques such as *I write you to…* (→ *I am writing to…*) and *Waiting for your answer* (→ *I look forward to hearing from you*).

Worked example

Answering three reviewer comments

Comment 1: "The sample is not representative." → *We agree that the sample is not representative of all doctoral students. We now describe its composition in detail (p. 6) and have restricted our conclusions to public universities (p. 18).*

Comment 2: "Please add a reference to Smith (2019)." → *We thank the reviewer. We have added this reference and discuss how our results compare (p. 15, lines 320-326).*

Comment 3: "The authors should use a multilevel model." → *We agree that the data are nested. We have re-run the analysis with a multilevel model (students within universities). The results are very similar (Table S3), and we report them in the supplement.*

Each response: thanks or acknowledgement, what was done, where.

Graded exercises

Basic. Rewrite politely: "We do not agree with this comment because it is wrong."

Explanations

"We respectfully disagree with this point, because (give your evidence). We have nevertheless clarified the text to avoid this interpretation (p. 9)."

Advanced. Write a complete response letter to the reviews of one of your papers (or to an invented set of five comments).

Explanations

Follow Noble (2017): overview, every comment quoted, polite responses, changes with page and line numbers, and reasoned disagreement where appropriate.

Activities

Activity: Appropriate tone for a response to reviewers?

Categorías: Appropriate · Inappropriate

- "We thank the reviewer for this helpful comment and have added the analysis (p. 9)."
- "The reviewer clearly did not read the paper carefully."
- "We respectfully disagree: as shown in Table 3, the effect remains after adjustment."
- "This is obvious and does not need explanation."

Solution

- "We thank the reviewer for this helpful comment and have added the analysis (p. 9)." → **Appropriate**
- "The reviewer clearly did not read the paper carefully." → **Inappropriate**
- "We respectfully disagree: as shown in Table 3, the effect remains after adjustment." → **Appropriate**
- "This is obvious and does not need explanation." → **Inappropriate**

Activity: Order a response to a reviewer's comment

- Explain what you did or why you disagree
- Quote the reviewer's comment in full
- Show the changed text with page and line numbers
- Thank the reviewer or acknowledge the point

Solution

1. Quote the reviewer's comment in full
2. Thank the reviewer or acknowledge the point
3. Explain what you did or why you disagree
4. Show the changed text with page and line numbers

ℹ Scenario: A difficult reviewer

Reviewer 2 says your sample is too small and asks you to collect more data, which would take a year.

1. The comment

How do you respond?

- "The sample is adequate. We will not collect more data." → step 2
- Acknowledge the concern and report a power analysis and confidence intervals → step 3

2. Dismissive

(bad ending)

A refusal without evidence will probably lead to rejection and does not address the reviewer's intent: they are worried about precision.

3. Evidence

The analysis shows that small effects cannot be ruled out. What do you add?

- Nothing more: the analysis is enough → step 4
- A clear limitation in the Methods and more cautious conclusions → step 5

4. Partial

(could be better)

Better, but the text still claims more than the data support.

5. Complete response

(good ending)

You respond to the intent (precision), report evidence, state the limitation within the methodology and calibrate the conclusions (chapter 3). The editor can now judge the paper fairly.

Assignment

! Challenge for chapter 5 · The full cycle

1. Write a cover letter for one of your manuscripts (or a fictitious one).
2. Write a one-page peer review of a published preprint in your field.
3. Using a real or invented set of three reviewer comments, write a complete response letter following Noble (2017).

Submission: use the assignment template. This challenge **has no solution in the book**.

Self-assessment

Answer on paper and then check with the explanations in the box. In the web version these questions are marked automatically. They do not count towards your grade.

1. A cover letter should repeat the abstract. *[T / F]*
2. According to Noble (2017), you should respond to *[only the main comments / every comment / only the comments you agree with]*
3. When a reviewer misunderstands, it often means the text was _____
4. "I write you to ask…" is correct English. *[T / F]*
5. A good review criticises the work, not the _____
6. A self-contained response quotes the changed text with page and line numbers. *[T / F]*

7. “I look forward to hearing from you” replaces the calque *[Waiting for your answer / Best regards / Dear Sir]*
8. What should you do when you disagree with a reviewer?

(a) Ignore the comment (b) Explain respectfully with evidence and reasons (c) Complain to the editor

Explanations

- What, why this journal, formal statements.
- Quote each comment in full.
- Accept the blame and clarify.
- “I am writing to ask…”
- Specific and kind.
- The editor should not have to search.
- A common calque from Spanish.
- “We respectfully disagree, because…”

Chapter 6. Presenting and networking

Objectives

- Structure a conference talk in English with clear signposting.
- Handle questions and discussion with useful phrases and strategies.
- Network and hold informal academic conversations with confidence.

Chapter glossary

Signposting · Word stress · Elevator pitch · Clarification request · Linguistic inequality

Downloads

Assignment template (.qmd)

Required reading

Amano, T.; Ramírez-Castañeda, V.; Berdejo-Espinola, V.; Borokini, I.; Chowdhury, S.; Golivets, M. et al. (2023). The manifold costs of being a non-native English speaker in science. *PLOS Biology*, 21(7), e3002184.

1. Speaking at conferences as a non-native speaker

Amano et al. (2023) found that non-native English speakers reported spending more time preparing oral presentations and that many avoided attending or presenting at international conferences because of language. Knowing this is useful in two ways: preparation pays off, and the difficulty is shared by most of your audience. International audiences value **clarity** far more than a native accent.

2. Signposting

Signposting language tells the audience where they are in the talk. It is even more important in a second language, for you and for listeners.

Function	Phrases
Opening	*Today I'm going to talk about… / The question I want to address is…*
Outline	*First, I'll… Then… Finally…*
Moving on	*Let's move on to… / That brings me to…*
Pointing to a visual	*As you can see in this graph… / The key thing here is…*
Emphasising	*What's really important is… / I'd like to stress that…*
Concluding	*To sum up… / The main take-home message is…*
Inviting questions	*I'd be happy to take any questions.*

3. Pronunciation that matters

Intelligibility depends more on **word stress** and **sentence stress** than on individual sounds. Common problems for Spanish speakers:

- Word stress in academic words: *anaLYsis, ANalyse, deVELop, DAta* or *DAHta*, *preSENT* (verb) vs *PREsent* (noun), *PHOtograph, phoTOgraphy*.
- Initial *s* + consonant: *study, Spain, specific* (not *estudy*).
- Final consonants and *-ed* endings: *analysed* (/d/), *tested* (/ɪd/), *worked* (/t/).

Mark the stress in your script, record yourself and listen.

4. Questions and discussion

- Ask for clarification: *Sorry, could you repeat the question? / Do you mean…?*
- Buy time: *That's a good question. Let me think…*
- Admit limits: *I'm not sure, but my guess would be… / That's beyond the scope of this study, but…*
- Redirect politely: *That's an interesting point; perhaps we could discuss it after the session.*

5. Networking

Prepare a 30-second **elevator pitch**: who you are, what you study and why it matters, in plain words. Ask questions about the other person's work, follow up by email within a week, and remember that coffee breaks are where many collaborations start.

Worked example

Script and signposting for a five-minute talk

Opening: "Imagine starting a PhD with 1,200 other students. Five years later, one in three has left. Today I'd like to show you why."

Outline: "First, I'll explain how we followed these students. Then I'll show what predicted who stayed. Finally, I'll suggest what programmes can do."

Transitions: "So that's how we collected the data. Let's move on to what we found." / "This brings me to the main result."

Conclusion: "To sum up: supervision matters more than money. The main take-home message is that programmes should train supervisors."

Questions: "Thank you. I'd be happy to take any questions."

Graded exercises

Basic. Choose the right phrase to move from methods to results.

Explanations

For example: "Let's move on to the results." or "So what did we find?"

Advanced. Write the full signposted script of a five-minute talk on your research, mark the stressed syllables of ten key words and record yourself.

Explanations

Check that every section has an explicit transition, that the main message is stated at the start and at the end, and compare the recording with the script for stress and pace.

Activities

Activity: What is the function of each phrase?

Categorías: Moving on · Pointing to a visual · Concluding · Asking for clarification

- “That brings me to my second point.”
- “As you can see in this figure, completion rates drop after year three.”
- “The main take-home message is that supervision matters.”
- “Sorry, do you mean the sample or the population?”

Solution

- “That brings me to my second point.” → **Moving on**
- “As you can see in this figure, completion rates drop after year three.” → **Pointing to a visual**
- “The main take-home message is that supervision matters.” → **Concluding**
- “Sorry, do you mean the sample or the population?” → **Asking for clarification**

Activity: Where is the main stress?

Categorías: First syllable · Second syllable · Third syllable

- ANalyse
- aNALysis
- deVELop
- phoTOgraphy
- PREsent (noun)
- psychoLOgical (psy-cho-LO-gi-cal)

Solution

- ANalyse → **First syllable**
- aNALysis → **Second syllable**
- deVELop → **Second syllable**
- phoTOgraphy → **Second syllable**
- PREsent (noun) → **First syllable**
- psychoLOgical (psy-cho-LO-gi-cal) → **Third syllable**

Assignment

! Challenge for chapter 6 · A five-minute talk in English

1. Prepare a five-minute talk on your research with explicit signposting at every transition.
2. Mark the word stress of ten key terms and record yourself; listen and correct.
3. Prepare answers to the three questions you are most likely to be asked, and a 30-second elevator pitch.

Submission: use the assignment template. This challenge **has no solution in the book**.

Self-assessment

Answer on paper and then check with the explanations in the box. In the web version these questions are marked automatically. They do not count towards your grade.

1. Amano et al. (2023) found that non-native speakers spend more time preparing presentations. *[T / F]*
2. Phrases that tell the audience where they are in the talk are called _____
3. For intelligibility, the most important feature is *[a native accent / word and sentence stress / speaking fast]*
4. "Analysis" is stressed on the *[first / second / third]* syllable
5. Saying "I'm not sure, but my guess would be…" is an acceptable way to answer. *[T / F]*
6. A 30-second summary of who you are and what you study is an elevator _____
7. "Estudy" is the correct pronunciation of "study". *[T / F]*
8. What do international audiences value most?

(a) A perfect native accent (b) Clarity (c) Long, complex sentences

Explanations

- And to avoid some conferences.
- For you and the audience.
- Stress carries meaning.
- a-NAL-y-sis.
- Honesty builds credibility.
- Prepare it in advance.
- Initial s + consonant.
- Most of the audience are non-native too.

Phrasebank

Useful expressions for each part of a research article. Adapt them; do not paste them mechanically.

Introduction

- *X is a central issue in… / There is growing interest in…*
- *Previous studies have shown that… (Smith, 2020; Lee, 2022).*
- *However, little is known about… / Few studies have examined… / It remains unclear whether…*
- *This study aims to… / Here, we examine… / In this paper, we report…*

Methods

- *Data were obtained from… / We collected data from… between… and…*
- *Participants were recruited through… / The sample consisted of…*
- *We used X to estimate… / Analyses were conducted in R (version…).*
- *The study was preregistered at… / Data and code are available at…*

Results

- *Table 2 shows… / As shown in Figure 3,…*
- *X was associated with Y (β = 0.32, 95% CI [0.18, 0.46]).*
- *We found no evidence that… / The difference was small and imprecise.*

Discussion

- *These findings suggest that… / This is consistent with… / In contrast to…*
- *One possible explanation is that…*
- *Our design does not allow us to conclude that…*
- *Future research could…*

Conclusion

- *In summary, … / Taken together, these results indicate…*

Correspondence

- *I am writing to… / I would be grateful if you could… / Please find attached…*
- *I look forward to hearing from you. / Kind regards,*

Peer review

- *The manuscript addresses an important question… / My main concern is…*
- *I would encourage the authors to… / It is unclear from the text whether…*

Responses to reviewers

- *We thank the reviewer for this helpful comment.*
- *We have revised the text accordingly (p. 7, lines 140-152).*
- *We respectfully disagree, because…*

Interactive lab

This appendix brings together a lab and an activity to practise in your browser.

Lab: abstract moves

Interactive lab

A good abstract moves through **five rhetorical moves** (Hyland, 2000): introduction, purpose, method, product (results) and conclusion. Paste your abstract. The lab tags each sentence with its most likely move using signal phrases, flags long sentences and lists the moves it could not find. It is a heuristic guide, not a judgement.

This lab is interactive in the web version: pablosancheznunez.com/scientific-english

Activity: order the moves

Activity: Put these abstract sentences in the usual order

- Citation counts are widely used to evaluate research, yet they ignore how research is used outside academia.
- Evaluation frameworks should therefore combine both indicators rather than rely on citations alone.
- Policy citations were only weakly correlated with academic citations.
- This study examines whether policy citations capture a different kind of impact.
- We matched 15,000 articles with mentions in policy documents and compared both indicators.

Solution

1. Citation counts are widely used to evaluate research, yet they ignore how research is used outside academia.
2. This study examines whether policy citations capture a different kind of impact.
3. We matched 15,000 articles with mentions in policy documents and compared both indicators.
4. Policy citations were only weakly correlated with academic citations.
5. Evaluation frameworks should therefore combine both indicators rather than rely on citations alone.

The sequence goes from context and gap (introduction) to aim (purpose), how it was done (method), what was found (product) and what it means (conclusion).

Lab: response to reviewers

Interactive lab

A good response letter quotes each comment, thanks the reviewer briefly, says **what you changed** and **where**, and disagrees politely with evidence when needed. Fill in one comment and copy the formatted reply.

This lab is interactive in the web version: pablosancheznunez.com/scientific-english

Lab: cover letter

> ℹ Interactive lab
>
> Editors read the cover letter in a minute. It should say what you found, why it matters **for this journal** and confirm the required declarations. Fill in the fields and download the draft.
>
> This lab is interactive in the web version: pablosancheznunez.com/scientific-english

Watch and keep learning

These are links, not embeds: the video opens on the provider's site.

- **Writing in the Sciences** — Kristin Sainani · Stanford University (Coursera). A video course on clear scientific writing: cutting clutter, sentence and paragraph structure, the writing process and the parts of a manuscript. Free to audit.

Teacher's guide

The book can be used as the textbook of a doctoral workshop of about 18-24 hours (six sessions) on scientific English, or for self-study. It assumes an intermediate level of English (around B2) and focuses on research genres rather than general English.

Suggested assessment

Activity	Suggested weight
Assignments (choose 4 of 6)	60%
Final task: abstract, cover letter and five-minute talk on the student's own research	30%
Self-assessments and participation	10%

The common rubric values structure and argument (25%), clarity and concision (25%), accuracy of language (20%), appropriate academic style (20%) and reflection (10%).

Labs and activities

Labs: readability checker, hedge and booster highlighter, and Spanglish detector. Scenario: a difficult reviewer. In the PDF and EPUB, the activities appear on paper with their solutions.

Recommendations

- Work with the students' own texts as early as possible.
- Normalise the difficulty: most researchers are non-native speakers (Amano et al., 2023), and clarity matters more than accent.
- Discuss the responsible use of language tools and AI assistants, and the journals' disclosure policies.

Moodle and slides

The questions are exported to **Moodle XML** (*Question bank → Import → Moodle XML format*); each question keeps its explanation as general feedback.

Download the question bank: whole book · by chapter: 01 · 02 · 03 · 04 · 05 · 06

Slides for each chapter are in diapositivas/.

Glossary

Terms in the book, by chapter.

The architecture of a research article

IMRaD
Introduction, Methods, Results and Discussion: the standard structure of research articles. → Chapter 1

Rhetorical move
A unit of text with a specific communicative purpose, such as showing a gap. → Chapter 1

CARS model
Swales's Create a Research Space model of introductions: territory, niche, occupation. → Chapter 1

Research gap
What is not yet known or resolved, which the study addresses. → Chapter 1

Structured abstract
An abstract with labelled parts: background, methods, results and conclusions. → Chapter 1

Context-content-conclusion
Scheme for papers, sections and paragraphs recommended by Mensh & Kording (2017). → Chapter 1

Clear sentences

Readability
How easy a text is to read, often estimated with formulas such as Flesch Reading Ease. → Chapter 2

Topic position
The beginning of a sentence, which should hold old, linking information. → Chapter 2

Stress position
The end of a sentence, which should hold new, important information. → Chapter 2

Nominalisation
A verb or adjective turned into a noun (analyse → analysis), often making sentences heavier. → Chapter 2

Passive voice
Construction in which the subject receives the action (samples were stored). → Chapter 2

Plain language
Clear, direct writing that the intended reader can understand on first reading. → Chapter 2

Hedging and stance

Hedge
Word or phrase that softens a claim (may, suggest, possibly). → Chapter 3

Booster
Word or phrase that strengthens a claim (clearly, demonstrate). → Chapter 3

Stance
The writer's attitude towards claims and sources. → Chapter 3

Overclaiming
Stating more than the evidence supports, for example causal claims from correlations. → Chapter 3

Reporting verb
Verb used to report sources (show, suggest, claim), which conveys stance. → Chapter 3

Common errors

False friend
Word that looks similar in two languages but has a different meaning. → Chapter 4

Uncountable noun
Noun with no plural form (research, evidence, information). → Chapter 4

Academic Word List
Coxhead's list of 570 word families frequent across academic disciplines. → Chapter 4

Collocation
Words that habitually go together (conduct a study, draw a conclusion). → Chapter 4

Calque
Literal translation of an expression from another language (make a research). → Chapter 4

Peer review and correspondence

Cover letter
Short letter to the editor that accompanies a submission. → Chapter 5

Response to reviewers
Document that answers each reviewer comment and explains the changes. → Chapter 5

Major and minor revision
Editorial decisions asking for substantial or small changes before acceptance. → Chapter 5

Politeness strategies
Linguistic choices that soften requests and criticism. → Chapter 5

Rebuttal
Reasoned disagreement with a reviewer's comment, supported by evidence. → Chapter 5

Presenting and networking

Signposting
Phrases that tell the audience where they are in a talk. → Chapter 6

Word stress
The syllable pronounced with more force in a word (aNALysis). → Chapter 6

Elevator pitch
A 30-second summary of who you are and what you research. → Chapter 6

Clarification request
A phrase used to check you have understood a question. → Chapter 6

Linguistic inequality
The extra costs that the dominance of English imposes on non-native speakers in science. → Chapter 6

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