

## Writing Research Papers in English

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### 1. Research English

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Here are some key points discussed in the literature (Milton and Hyland 1999, Swales & Feak 2000, Hyland 2004) on the main features and aspects of research English.

In a research paper:

- Authors are expected to take sides and positions, and express their views;
- The responsibility for clarity is on the writer (rather than on the reader).

Research English is said to:

- have stricter conventions for sections and subsections;
- point to “gaps” or “weakness” in prior literature;
- present reasonable lexical variation;
- use short sentences with less complicated grammar.

## Research Articles

### 1. Abstracts

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#### *TASK (1)*

Below are concordance lines from a corpus of abstracts taken from research papers published by leading international journals from various disciplines. These lines come from the *purpose* component of the abstracts and are grouped according to the type of the pattern used. For convenience, all patterns are bolded.

Examine the concordance lines within each group and identify what common feature (or features) make(s) these lines part of the same group.

- (1) **We introduce** multi-state previewing tools to facilitate the proce ... (COMP)  
**In this paper we investigate** a canonical weakening of the notion ... (COMP)  
 Using a micromagnetics calculation, **we explore** the properties of ... (PHYS)
- (2) **This paper describes** a project to use the rodin tool-set to perf ... (COMP)  
**This study examines** the record of high-palaeoflow phases in rive ... (EART)  
**This article addresses** the desktop search problem by considering ... (COMP)
- (3) **The purpose of this study is to understand** observed behavior and ... (COMP)  
**The objective of this study was to determine** the effects of the ... (PHYS)  
**The aim of the article is to provide** a unified and integrated pi ... (COMP)
- (4) **The goal is to find** the same fine-scale, chaotic mixing in the i ... (COMP)  
**The purpose here is to explore** some abstractions that help read ... (COMP)  
**Our aim was to determine** the mechanism of espf/snx9-induced mem ... (BIOL)
- (5) A suite of ... methods ... was used **to examine** the mineralogy of ... (EART)  
 ... spectroscopy was used **to study** the spectral linewidth and fr ... (PHYS)  
**To investigate** the trade-offs between ..., we compare, analytica ... (COMP)
- (6) Low- and high-field magnetotransport measurements o ... **are reported.** (PHYS)  
 Models for compensation of measurement overhead in par **are described.** (COMP)  
 ... mtdna heteroplasmy **was studied** in oocytes and placenta of wo ... (BIOL)

**TASK (2)**

We now look at "purposive" verbs. Can you identify them in the examples above?

**TASK (3)**

You should now turn to your own corpus of research papers and focus on their abstracts. Identify the *purpose* component in each and answer the questions below. Remember that not all abstracts necessarily include all the standard components. Thus, you may find abstracts in which the purpose of the study is not explicitly stated.

- What is the preferred pattern in your research field for stating the purposes of the research described in the paper?
- What are the most typical "purposive" verbs used in your research field?

**TASK (4)**

Let us now look at the various ways of presenting the findings of your research. The concordance lines below, extracted from our corpus of published abstracts, are all part of the *result* component of abstracts.

- Underline the textual pattern used in each example.
  - Once all patterns have been identified, pinpoint the "result" verb in each.
- (1) In this paper, we demonstrate that current procedures do not produce results which accurately characterize ...(COMP)
  - (2) Our data indicate that this reduction in aldh1a2 protein is an early event in human prostate cancer. (Pharm)
  - (3) These results show that dynamical processes can have a significant impact on the instantaneous nutrient distributions. (EART)
  - (4) It is found that interconnects with large latency and low bandwidth are major bottlenecks for performance scalability ...(COMP)
  - (5) The paper shows experimentally that when preemption is ... lc substantially outperforms both ...(COMP)
  - (6) We present results from both simulations and our real implementation, which clearly show that our active system is a feasible approach ...(COMP)
  - (7) Measurements on a full implementation in linux indicate that trickles achieves performance comparable to ...(COMP)
  - (8) The cls is found to vanish when the mean square radius is twice as great transversely as longitudinally. (PHYS)
  - (9) In-depth examinations of the experimental results in combination with semi-empirical models suggest that equilibrium charge state distributions are ... (PHYS)
  - (10) We found no evidence of a wave of excess cases corresponding to the peak of radioactive fallout from atmospheric weapons testing. (BioPh)

**TASK (5)**

Examine the *result* component of the abstracts in your corpus of research papers and answer the questions below.

- What is the preferred pattern in your research field for presenting results?
- What are the most typical "result" verbs used in your research field?

**TASK (6)**

For each sentence provided below, answer the question that follow by consulting **COCA** - (<http://www.americancorpus.org/>). For convenience, here are some notations adopted by COCA for queries with grammatical categories:

[nn*] ⇒ substantive	[v*] ⇒ verb	[j*] ⇒ adjective
[r*] ⇒ adverb	[i*] ⇒ preposition	[c*] ⇒ conjunction

(1) **Our data indicate that this reduction in *aldh1a2* protein is an early event in human prostate cancer.**

(i) What other nouns would fit in the position where *data* occurs?

(2) **We found no \*evidence of a wave of excess cases corresponding to the peak of radioactive fallout ....**

(ii) What adjectives would fit on the left of *evidence*?

**2. Introductory sections****TASK (7)**

Group the sentences below according to the categories (i), (ii) and (iii). Can you also underline the construction (sequence of words) that supports your decision?

- i. the topic has been extensively studied;
  - ii. the topic has been moderately studied;
  - iii. studies are still needed.
1. The significance of external connectivity for remaining at the forefront of innovation has been widely acknowledged in the literature (ref.). (BUSS)
  2. There is considerable debate in the literature about the origins of the formula, what it was designed to do and what its effect has been. (POLIT)
  3. There are indications in the literature that the influence of affective TSRs on learning could be weaker or stronger depending on specific characteristics of students and teachers. (EDUC)
  4. Unlike classroom practice, which has come under the microscope in recent years, there has been less interest in either the organization or the discourse practices of the post-observation feedback conference. (LING)
  5. As the new justice research streams previously described have found increasing attention in the literature, researchers have begun theorizing about the potentially different motivating mechanisms behind the justice to outcome relationship. (BUSS)
  6. Not only have environmental issues been gaining considerable currency in various fields within sociology, such as ... (ref.), but they have increasingly been acknowledged within sociology as a whole over the last decade, with prominent articles in the leading general sociological journals (ref.). (SOC)
  7. Since California implemented its staffing mandate, a few studies have more directly evaluated the impact of AB 394 and suggest that California's staffing mandate has resulted in improved licensed nurse staffing (ref.). (HEALTH)
  8. Qualitative scholars have repeatedly shown that idiosyncratic contextual factors, such as personality clashes and ad hoc critical events, that are difficult to quantify can often have a significant impact on the choice of government (ref.). (POLIT)

**TASK (8)**

Consider the examples provided and answer the questions that follow by consulting **COCA**.

(1) *There is **considerable** debate in the literature about the origins of the formula, what it was designed to do and what its effect has been.*

➤ What other adjectives could be used in the position where *considerable* occurs?

(2) *Unlike classroom practice, ..., **there has been less** interest in either the organization or the discourse practices of the post-observation feedback conference.*

➤ Let us imagine that your intention is to express the opposite idea, that is, that *there has been much interest in something*. In addition to *much*, what other adjectives could be used in the position where *less* occurs?

(3) *Not only have environmental issues .... .. but they **have increasingly been acknowledged** within sociology as a whole over the last decade, ...*

➤ What adverbs can I use to replace *increasingly* in the sentence above?

➤ What verbs can I use to replace *acknowledged*? Make sure you also select the most typical adverbs used with each verb option.

**TASK (9)**

A common feature in research English is to explicitly indicate “gaps” or “weakness” in the literature (Swales & Feak 2000:16). Can you identify the words or phrases that reflect such feature in the examples below?

1. The possible relationship between the Result section and the Discussion or Conclusion ... are not clarified in the more recent studies (ref.), and remain as interesting topics worth exploring. (LING)
2. Results from early studies of the consequences of California’s nurse staffing mandate are mixed (ref.), and little is known about how this legislation affected safety-net facilities ... (HEALTH)
3. Although the CL model represents an important advance in the study of government choice, at least two empirical challenges remain. The first involves addressing ... The second challenge involves extracting ... (POLIT)
4. Although legal limits on tax discrimination are widely viewed as promoting economic efficiency, there is no consensus regarding what efficiency value they promote. (LAW)
5. The key question remains unanswered: what is the underlying structure of the ancient cities of Iran? (ARCHT)

Can you find similar examples in **your** reference collection?

**3. Literature Review****TASK (10)**

Consider the sentences below and answer the following questions:

- i. Identify the reporting verb in each sentence.
  - ii. What is the tense of the reporting verb? The options are: simple present (*shows*), simple past (*showed*) and present perfect (*has/have shown*).
1. Marriott *et al.* (2009) reported the most current estimates of fructose intake in the U.S. population using dietary recall data from the 1999–2004 National Health and Nutrition Examination Survey.
  2. Levy-Yeyati and Sturzenegger (2003) combine data on exchange rates and international reserves using cluster analysis.
  3. Sumaila and Walters (2005) argue that the approach to discount rates adopted by the Stern Review for climate change should be adopted as the standard for public health policies more generally.

**TASK (11)**

Examine the introductory sections in your reference corpus and answer the following questions:

- i. What are the five most frequent reporting verbs in your research field?
- ii. What is the prevailing verb tense when citing previous studies?

**4. Methodology**

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**TASK (12)**

Can you rewrite the sentences below using *by* + *verb-ing*.

1. We converted the diversity of lineages to age estimates by means of a molecular clock in order to settle the time scale of phylogenies. (ANTHRO)

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2. One way to further control the cost and schedule of a project is to keep the manufacturing techniques and assembly methods the same across all components. (ARCHT)

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**TASK (13)**

Consulting *COCA*: What verbs can I use to replace *use* in the sentences below?

*This ranking approach was used because different parameter sets can perform with different levels of success under the criteria used.*

**5. Results**

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**TASK (14)**

Consulting *COCA*: What verbs usually co-occur with the word *table*?

**TASK (15)**

Complete the sentences below using the information provided.

- i. I have a complete data set of 308 alliance negotiations involving at least one European power from 1815 to 1945. Of \_\_\_\_\_

\_\_\_\_\_. (POLIT)

*Total number of negotiations: 308*

*Negotiations that ended in agreement: 181*

*Negotiations that ended in nonagreement: 127*

- ii. Out of \_\_\_\_\_

\_\_\_\_\_. (EDUC)

*Total number of interview respondents: 40*

*Number of respondents that offered “educated” as one of the adjectives describing their ideal husband: 19*

*Number of respondents that mentioned that they would like their husband to be educated: 8*