

## GRAMMAR

### A Presenting arguments and commenting on others' work

If you **advocate** something, you argue in favour of it: He **advocated** capital punishment. If you **deduce** something, you reach a conclusion by thinking carefully about the known facts: Look at these sentences and see if you can **deduce** how the imperfect tense is used. If you **infer** something, you reach a conclusion indirectly: From contemporary accounts of his research, we can **infer** that results were slower to come than he had anticipated. If someone's work **complements** someone else's, it combines well with it so that each piece of work becomes more effective. If someone's work **overlaps** with someone else's work, it partially covers the same material.

You might call someone's work: **empirical** (based on what is observed rather than theory)

ambiguous (open to different interpretations)      **coherent** (logically structured)  
comprehensive (covering all that is relevant)      **authoritative** (thorough and expert)

### B Talking about figures and processes

If figures or decisions are referred to as **arbitrary**, they are based on chance rather than a plan or any particular reason.

Figures that **deviate** from the norm are different from what is typical.

If statistics **distort** the picture, they give a false impression.

If you refer to the **incidence** of something (e.g. left-handedness), you are talking about how often it occurs in the population.

If something (e.g. the incidence of frown eyes) is **predominant**, it is the largest in number. If things (e.g. stages in a process) happen **in sequence**, they happen in a particular order. If you want to say that something happens in many places or with many people, you can say that something happens in many places or with many people, you can say that it is **widespread**: **widespread outbreaks** of an illness, **widespread alarm**

### C. Words used instead of more everyday words in an academic context

<b>academic verb</b>	<b>everyday verb</b>		<b>academic word</b>	<b>everyday synonym</b>
append	add (at the end)		the converse	the opposite
conceive	think up		crucial	very important
contradict	go against		likewise	similarly
convene	meet		notwithstanding	despite this
demonstrate	show		somewhat	rather
denote	be a sign of, stand for		thereby	in this way
negate	make useless, wipe out		whereby	by which (method)
perceive	see			

reside	lie, live			
trigger	cause			
utilise	use			

**Which of the five adjective in A best describes each of these things?**

- 1 a textbook written by the most highly regarded expert in the field
- 2 research based on a survey of the population
- 3 a poem which can be understood in two quite different ways
- 4 an argument which is well-expressed and easy to follow
- 5 a textbook which gives a broad overview of an entire discipline

**Rewrite this paragraph, using words from C, to make it sound more academic**

The study was initially **thought up** in order to validate a new method of enquiry **by which** genetic information could be **used** to predict disease. Our work **goes against** the findings of Hill (2001); indeed it would appear to **show** the **opposite** of what he claimed. We **see** our work as presenting a **rather** different view of the genetic factors which **cause** disease. **Despite this**, our work does not **wipe out** Hill's, as his studies served the **very important** purpose of devising symbols to **stand for** certain tendencies, **in this way** facilitating further research. We hope that Hill will **similarly** find our work to be valid and that when international researches **meet** next April, they will concur that much of value **lies** in both our and Hill's studies. Our results are **added at the end**.

### C. Structuring the text

Some words and expressions for ordering and arranging the parts of an essay.

function of the text	example
beginning	I should like to <b>preface</b> my argument with a true story.
mapping out the text	I shall <b>return</b> to this point later in my essay.
connecting points	This <b>brings me/us</b> to my next area of discussion, which is finance.
focusing	I should now like to <b>address</b> the question of the arms race.
ordering points	The arguments are presented in <b>ascending/descending order</b> of importance.
quoting/referring	The ideas of several writers will be <b>cited</b> in support of the argument. The text <b>alludes</b> to several themes that need closer examination.
including/excluding material	Discussion of the roots of the problem is <b>beyond the scope of</b> this essay. It is impossible to <b>deal with</b> all the issues in this short essay. There will only be space to <b>touch upon</b> the big question of political responsibility.

drawing conclusions	We are <b>forced to conclude</b> that unemployment will always be with us.
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**Look at these extracts from essays and use words from A opposite to improve their style, making the underlined words more formal.**

1. The response from the public really shows us the importance of having a full investigation of the facts.
2. This view of the world was originally laid out by the Ancient Greek philosophers.
3. It is not easy to find the reason for the fall in population of these birds.
4. Economists have said there might be a link between exchange rates and a general lack of confidence in the European Union.
5. I should like to say again here that the issue is not one that can be easily resolved.
6. The recent events are the best example of the dilemma faced by politicians the world over.

## **CORRECTING MISTAKES**

### **What's missing?**

Replace the missing words in the following sentences from business letters. In sentences 1-7 one word is missing. In 8-14 two words are missing. The first one has been done for you as an example.

- 1     How are things (with) you?
- 2     I apologize not replying sooner.
- 3     Further our telephone conversation yesterday,...
- 4     See you the weekend. Best wishes, Jim.
- 5     I thought I'd send you a copy this article.
- 6     Sorry I wasn't there meet you when you called.
- 7     Sincerely, Brian Green.
- 8     Thank you your letter May 6.
- 9     Get back to me soon you can.
- 10    I look forward hearing you.

- 11 With reference your fax June 3, ...
- 12 I am writing regard you recent advertisement.
- 13 I'll be touch the next couple of weeks or so.
- 14 I can be any further assistance, do contact me again.

### PRESENT SIMPLE OR CONTINUOUS?

Some verbs are not 'action' verbs, and are not usually used in the continuous form.

be know understand se hear think believe like seem need mean want
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### Practice Choose the best alternatives in the following conversation.

- A What do you do / are you doing?
- B I'm / I'm being an electrical engineer for Siemens.
- A Really? Here in Munich?
- B That's right. Do you know / Are you knowing Munich?
- A Oh, yes, great city. So, how do you enjoy / are you enjoying the conference so far?
- B Well, it's all right, I guess / I'm guessing. Do you give / Are you giving a talk?
- A No, no. I only come / I'm only coming to these things to get out of the office for a few days. Where do you stay / are you staying, by the way?
- B At the Avalon. I usually stay / I'm usually staying at the Bauer Hotel in Münchenerstrasse but it was full.
- A Well, if you don't do / you aren't doing anything later, do you want to go for something to eat?

### Practice Using the rules you've worked out so far, try the following quiz about the people who said these sentences. Write yes, no or maybe.

- a I lived in Lisbon  
Does he live there now? \_\_\_\_\_
- b I lived in Helsinki for six months.

- Does she live there now? \_\_\_\_\_
- c I've lived I Toronto.  
Does he live there now? \_\_\_\_\_
- d I've lived in Taipei for three years.  
Does she live there now? \_\_\_\_\_
- e I've been in all morning and she hasn't phoned.  
Is he in now? \_\_\_\_\_ Is it still morning? \_\_\_\_\_
- f I was in all morning and he didn't phone.  
Is she in now? \_\_\_\_\_ Is it sill morning? \_\_\_\_\_

**Practice Complete the conversation using the items in brackets either the Past Simple or Present Perfect.**

*Tibor, a sales manager, is planning to send his staff on a team-building survival course.*

**Tibor:** Right now (1) \_\_\_\_\_ you all \_\_\_\_\_ (get) my e-mail yesterday about the training course?

**Fydor:** Er, yes ... (2) \_\_\_\_\_ (be) it a joke?

**Tibor:** I certainly (3) \_\_\_\_\_ (not mean) it to be a joke, Fydor.

No, I (4) \_\_\_\_\_ (notice) recently that we need to work as a team more. Last year's interpersonal skills course obviously (5) \_\_\_\_\_ (not be) as successful as I (6) \_\_\_\_\_ (hope), and so (7) \_\_\_\_\_ (now decide) to send you all on a management survival course.

**The adjectives below can all be used to describe people in a company. Change each adjective into its opposite by adding un-, in-, im-, ir- or dis-.**

- |                     |                    |
|---------------------|--------------------|
| a _____ reliable    | k _____ articulate |
| b _____ flexible    | l _____ honest     |
| c _____ organised   | m _____ rational   |
| d _____ patient     | n _____ decisive   |
| e _____ responsible | o _____ supportive |
| f _____ creative    | p _____ competent  |
| g _____ consistent  | q _____ assertive  |
| h _____ inspiring   | r _____ sociable   |

i \_\_\_\_\_ committed                      s \_\_\_\_\_ considerate  
j \_\_\_\_\_ practical                      t \_\_\_\_\_ competitive

**Complete the following staff appraisals using an appropriate positive or negative adjective form.**

- a Laura's real ideal person. She's exceptionally \_\_\_\_\_.
- b Brian can only do things his way. He's bit \_\_\_\_\_.
- c Max is always there to give people a hand when they need it. He's really very \_\_\_\_\_.
- d With Peter it's just one mistake after another. He's completely \_\_\_\_\_.
- e Greta tends to take no notice of other people's needs. She's rather \_\_\_\_\_.
- f Richard's office looks like a bomb hit it – papers everywhere! He's totally \_\_\_\_\_.
- g With Maria the job always comes first. She's totally \_\_\_\_\_.
- h Sam can never make up his mind about anything. He's extremely \_\_\_\_\_.
- I Callum really knows how to motivate his staff. He's incredibly \_\_\_\_\_.
- j You can never depend on Leo to do what he's supposed to do. He's totally \_\_\_\_\_.
- k Jane meets all her targets month after month. She's incredibly \_\_\_\_\_.
- l Jeanette too often allows her personal life to interfere with her work. She's rather \_\_\_\_\_.
- m Eric always has to be the best at everything. He's extremely \_\_\_\_\_.
- n John tends to keep himself to himself. He's bit \_\_\_\_\_.

**Complete the article using the correct passive form of the verbs in brackets.**

#### LLOYD'S: INSURING THE FAMOUS AND THE BIZARRE

Virtually anything (1) \_\_\_\_\_ (can / insure) at Lloyd's. In fact, over the last hundred years London's most celebrated insurance company (2) \_\_\_\_\_ (ask) to issue some of the most bizarre policies ever! Here are just a few.

Car insurance is big business these days. But the very first car (3) \_\_\_\_\_ (insure) at Lloyd's (4) \_\_\_\_\_ (cover) by a marine policy. Cars were such a novelty in those days, motor policies (5) \_\_\_\_\_ (write) on the basis that cars were just ships that sailed on the land!

Actors have always been paranoid. Hollywood film idol, Betty Grable, was so worried her famous legs (6) \_\_\_\_\_ (might / injure) during filming, they (7) \_\_\_\_\_ (insure) by Lloyd's for a million dollars.

Multi-millionaire rock stars worry too. Bob Dylan, Eric Clapton, Michael Jackson, Elton John, Rod Stewart and the Rolling Stones have all insured their voices. Bruce Springsteen's (8) \_\_\_\_\_ (believe) to be worth 3.5 million.

Food critic and gourmet Egon Ronay runs a different risk. Obviously, his career (0) \_\_\_\_\_ (would / destroy) if he was ever to lose his sense of taste. So a Lloyd's policy for 260,000 (10) \_\_\_\_\_ (take out) to protect him against walking up one day not knowing a haggis from a hamburger.

Insuring works of art is nothing new, but the laughter (11) \_\_\_\_\_ (could / hear) all over the city when a grain of rice with a portrait of the Queen and the Duke of Edinburgh engraved on it (12) \_\_\_\_\_ (estimate) to be worth 20,000. The question is: worth 20,000 to whom?

A few years ago, a killer whale called Namu (13) \_\_\_\_\_ (capture) off the Canadian coast and (14) \_\_\_\_\_ (drag) to Seattle for display in an aquarium. The captors insured themselves for 8,000 against Namu (15) \_\_\_\_\_ (rescue) by other whales!

One rather confident comedy theater group insured itself against the risk of a member of the audience dying laughing. So far, however, the insurance (16) \_\_\_\_\_ (not / claim) ...

**Practice** Study the information and make the direct remarks below more diplomatic using the words in brackets to help you.

- a This is too expensive. (unfortunately / would)  
\_\_\_\_\_  
\_\_\_\_\_
- b We're not interested in your economy model.  
(would / less) \_\_\_\_\_  
\_\_\_\_\_
- c It will be difficult to sell the idea to my boss.  
(unfortunately / may / very easy)
- d We should be near a decision by now.  
(shouldn't / a bit nearer?) \_\_\_\_\_  
\_\_\_\_\_
- e We can't pay straight away. (afraid ( might not / able) \_\_\_\_\_  
\_\_\_\_\_
- f I won't make any promises. (not / position / this stage)  
\_\_\_\_\_  
\_\_\_\_\_
- g This is difficult for us to accept. (would / a little / the moment) \_\_\_\_\_

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h You said you wanted immediate delivery. (understood)

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i We hoped you would provide after-sales service.  
(honest / hoping) \_\_\_\_\_

---

j Our discussions have been unproductive. (not very / so far)

---

k A fixed interest rate would be a good idea. (wouldn't / better?)

---

l We had aimed to get further than this morning. (aiming / slightly)

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## PLURALS, SINGULARS, AND UNCOUNTABLES

**Choose the correct alternative in each of the following sentences:**

1. We would be grateful for your *advice* / *advices* on this matter.
2. Thank you for the *information* / *informations* concerning the schedule.
3. Could you supply the usual bank and trade *reference* / *references*?
4. Please accept our sincere *apology* / *apologies* for the delay.
5. We have excellent storage *facility* / *facilities*.
6. The annual *account* / *accounts* *is* / *are* submitted to the Auditors by January 31<sup>st</sup>.
7. We close our *book* / *books* on June 30 for the financial year.
8. May we draw your attention to the *content* / *contents* of our letter on June 4.
9. At least it will make a contribution to *overhead* / *overheads*.
10. *Profit* / *profits* *has* / *have* fallen in the last quarter.
11. I understand they are in *debt* / *debts* at the moment.
12. If you let us have a note of your *expense* / *expenses* we will be glad to reimburse you.



13. The *possibility / possibilities* for expansion *is / are* endless.
14. *Business / businesses* *is / are* very slow at present.
15. We have no *knowledge / knowledges* of the proposal to increase import duty.
16. The Custom usually charge *duty / duties* even on small packages.
17. We have made substantial *progress / progresses* since we last wrote to you.
18. We could, on this occasion, accept payment in foreign *currency / currencies*.
19. The parcel must be open, tied with *string / strings*, not sealed with tape.
20. The *packaging / packagings* must be waterproof.

**Underline one or both of the words.**

- 1 If you make *a / one* mistake, a dialogue window appears on your screen.
- 2 *A / One* possible way to do this is to set out some strategic objectives.
- 3 We only did *an / one* experiment before the apparatus exploded.
- 4 Can you give me *a / one* breakdown of costs please?
- 5 There are at least *a / one* hundred manual operators in our workforce.
- 6 I thought there were two hundred not *a / one* hundred.
- 7 *A / One* man called for you this morning, but he didn't leave his name.
- 8 We can decide from *a / one* week to the next.
- 9 *A / One* quarter of those interviewed said they did *a time / one time / once* a week.
- 10 I'll have *a / one* beer please.

**Some uncountable nouns can also be countable, but their meaning changes. Which of the following nouns can be countable? What do they mean?**

baggage	furniture	interest	money
coffee	hair	jeans	paper
energy	hardware	knowledge	scissors
expertise	help	machinery	traffic
evidence	homework	mathematics	work

**Underline the correct form.**

- 1 Juventus *is / are* one of the richest football clubs in Europe.

- 2 Real Madrid *is / are* playing Juventus tomorrow night.
- 3 If there *is / are* more than one possible answer, then choose the most appropriate.
- 4 Up to 40% of funds *is / are* deposited in banks.
- 5 Three hundred *doesn't / don't* sound too high.
- 6 Two thirds of those interviewed *say / says* that they don't agree.
- 7 The maximum allowance *is / are* twenty-four kilos.
- 8 Twenty-four kilos *is / are* quite heavy.
- 9 A set of golf clubs *cost / costs* \$2,500.
- 10 A couple of hours *is / are* not long to wait.

**Insert a / an, the, or nothing into the spaces below.**

\_\_\_1 Pentium chip had \_\_\_2 'bug'. Intel had known about it for some time but had treated it as \_\_\_3 technical problem. They had taken \_\_\_4 engineering perspective rather than \_\_\_5 customer-public relations one, despite \_\_\_6 fact that they had gone \_\_\_7 long way in \_\_\_8 previous years towards recreating themselves as \_\_\_9 marketing company.

\_\_\_10 computer chip is not very interesting in itself, but \_\_\_11 'power at \_\_\_12 heart of \_\_\_13 your business', certainly is, and their slogan 'Intel inside' was \_\_\_14 clever statement of this. Intel decided that as \_\_\_15 bug was such \_\_\_16 small fault and statistically almost negligible, they did not have to worry about it, and therefore neither would their customers. Wrong! When \_\_\_17 problem came to \_\_\_18 light, Intel issued \_\_\_19 statement that \_\_\_20 basic spreadsheet users would hit \_\_\_21 error once every 27,000 years. This was absolutely accurate but did little to allay customer disquiet.

\_\_\_22 Intel competitors were not slow to point out that \_\_\_23 risk would be greatly increased for \_\_\_24 financial analyst who uses \_\_\_25 spreadsheets most of \_\_\_26 day, and this is precisely \_\_\_27 person who cannot afford to make \_\_\_28 error. Also, \_\_\_29 normal users do not use \_\_\_30 random floating point values that Intel used to illustrate \_\_\_31 problem of error. They use \_\_\_32 other calculations that would increase \_\_\_33 chance of \_\_\_34 mistake. Intel had analysed \_\_\_35 statistics, but

did nothing to calm \_\_\_\_36 fears of \_\_\_\_37 customers, who were uninterested in \_\_\_\_38 statistical analyses or \_\_\_\_39 theoretical chances of error.

Their perception was that of \_\_\_\_40 car owner who finds that there is \_\_\_\_41 design fault in \_\_\_\_42 engine that means there is \_\_\_\_43 risk of \_\_\_\_44 crash - \_\_\_\_45 totally unacceptable situation. \_\_\_\_46 survey in \_\_\_\_47 USA at \_\_\_\_48 time quoted \_\_\_\_49 average consumer comment: 'I am not sure what \_\_\_\_50 Pentium is, but I know something is wrong with it.' Bad news for Intel, who to their public relations credit, but accounting debit, set about recalling and replacing all faulty chips.

## A Problem pairs

Often, for various reasons, two words are easily confused. All the alternative given in the following exercise have already been met in this book. Can you remember the differences between them and use them correctly? Try and see. If you cannot, with the answers you will find the references to the notes where they are explained.

One of the (principal, principle) causes of (error, mistake) in laboratory instruments is temperature variation. In (practice, practise) it is necessary to (check, control) the ambient temperature at regular intervals during the whole period of an experiment. For example it is obvious that we cannot determine the (resistance, resistor) of a given (resistor, resistance) if we do not maintain the temperature constant at some fixed value. With some materials a small rise in temperature is sufficient to (affect, effect) many of their physical properties. We must bear in mind the human factor (too, two). If an instrument or (meter, metre) is mounted (too, to) near an electric machine, a (motor, engine) for example, vibration of the pointer may make it impossible to obtain an accurate reading. Or it may be difficult for the observer to see the instrument from directly in front and he may make (a mistake, an error) by reading the value on the scale to the side of the pointer and not directly behind it. Students are often given the (advice, advise) to (practice, practise) reading instruments of all types because it is not so easy as it might seem. In fact it is only through constant care and attention to detail that we can be sure that our readings are (always, still) exact, and even so we may (always, still) find unavoidable (mistakes, errors) (affecting, effecting) the values we obtain for the quantities we wish to measure; though we should never be in the position of having to (choose, chose) (between, among) (two, too) very different values for an identical quantity, even though it may occasionally occur. In such a case, if our readings exceed the acceptable margin of (mistake, error), there is only one course: to repeat the whole experiment and hope that with even more attention to detail we may (still, always) obtain a satisfactory reading.

## B Verb forms

Complete these sentences by using the verbs in brackets in the correct form.

1. Fifteen candidates have (apply) for the post of works manager.
2. Costs have been (cut) by 10% in the last 12 months, and demand for our products has (grow) by 18%.
3. Some new method of recharging batteries in a very short time must be (find) before electric cars can be (put) on the market successfully.
4. The advisory committee (give) a lot of time to an examination of your proposals at their meeting yesterday, but I do not (know) what decision they (reach).
5. An increase in the cost of electric power has (mean) greater competition from natural gas as a source of energy.
6. We have (seek to (overcome) the defect you (mention) when you (write) your report, but so far we have been unsuccessful.

7. Production of our new range of capacitors will (begin) as soon as our present stock has been (reduce) by 80%.
8. Our chief engineer (leave) for New York yesterday to (discuss) research problems with our United States associates.
9. Most hospitals (employ) an emergency generator (drive) by a diesel engine
10. If Herr Schultz had (know) Mr Miller was in Berlin in March, he would certainly have (see) him.

## C Nouns from verbs

Complete these sentences with appropriate nouns formed from the verbs in brackets.

*Example* Some steps must be taken to eliminate the (vibrate) of the turbine. *vibration*.

1. There is all the (equip) necessary in the laboratory to measure the efficiency of the (amplify).
2. One of the reasons why fuel cells are often employed in difficult environments is that they require little (maintain).
3. My colleagues and I hope to be present at the (confer) that will be held in London in May.
4. Any complaint about the quality of the components should be made directly to the (manufacture).
5. This guarantee is not valid if there has been any (interfere) with the (insulate).
6. A (transform) is used to step up or down the voltage of an alternating current, whereas a (rectify) is used to convert an alternating current into a direct current.
7. We should be glad to receive the (specify) for the new (oscillate) as soon as possible.
8. Our technical director cannot accept the (vary) you propose in the (arrange) for our July meeting.

## ACADEMIC TEXTS

### Reference section

or

### Bibliography?

a list of all the sources that you have cited in the text of your document

a list of all the sources you have consulted while writing your document. Only some of which are cited in the text.

## ABSTRACT

### Abstract

An abstract of approximately 200 words is required by the University and for BSc theses by the Department. The University requires that PhD theses contain an abstract comprising *not more than 350 words*. The abstract shall indicate:

- i) the problem investigated,
- ii) the procedures followed,
- iii) the general results obtained,
- iv) the major conclusions reached,

but shall not contain any illustrative matter, such as tables, graphs or charts, or references.

The role of the abstract is to summarise the principal findings of the thesis and provide the reader with more information than is found in the title without having to read the complete thesis. It should be written last so that it accurately reflects the contents of the thesis. Considerable practice is required to write a precise abstract, and students are advised to consult reputable journals for examples. Precise titles and abstracts have become extremely important with the advent of computer literature searching.

## INFORMATION CONVENTIONS

Many readers depend on the abstract to give them enough information about the study to decide if they will read the entire report or not.

Read the following sample abstract from the field of computer science. It reports on a test of a voice recognition device designed to take dictation. Notice the kinds of information included and the order in which the information is presented.

### **COMPOSING LETTERS WITH A SIMULATED LISTENING TYPEWRITER**

background	Abstract. <b>1</b> With a listening typewriter, what an author says would be automatically recognized and displayed in front of him or her.
purpose	<b>2</b> However, speech recognition is not yet advanced enough to provide people with a reliable listening typewriter. <b>3</b> An aim of our experiments was to determine if an imperfect listening typewriter would be useful for composing letters. <b>4</b> Participants dictated letters, either in isolated words or in consecutive word speech. <b>5</b> They did
method	this with simulations of listening typewriters that recognized either a limited vocabulary or an unlimited vocabulary. <b>6</b> Results indicated
results	that some versions, even upon first using them, were at least as good as traditional methods of handwriting and dictating. <b>7</b> Isolated word speech with large vocabularies may provide the basis
conclusion	for a useful listening typewriter.

## **Introduction**

The function of the Introduction is to outline, in the space of one to three pages, the nature of the problem to be searched, the importance of the problem and the way in which the problem will be approached. The specific aims and objectives of the work should be spelled out together with any hypotheses to be tested. The introduction should include major points of experimental design or techniques and major references, where appropriate.

## **Materials and Methods**

This section of the thesis describes the materials and apparatus used and the experimental procedures followed. Sufficient details should be provided to enable competent workers to repeat the work. Details in this section shall include sources and complete identification of raw materials, purity of solvents and other chemicals, construction of specialised apparatus, suppliers of less known apparatus, methods of analysis, design of experiments, and statistical procedures for evaluation of results. If analytical methods in PhD and MSc theses are lengthy, the full details may be recorded in an appendix, however sufficient details must still be provided in the Materials and Methods section to enable the reader to comprehend the Results and Discussion sections. Standard methods (e.g. AOAC) need only be cited by number and year. Deviations should be detailed.

## **Results and Discussion**

The Results and Discussion section (or separate sections if more appropriate) normally requires considerable discussion between student and supervisor to decide on the most effective format for writing up the experimental work. For many theses, separate sections for the results and for the discussion of the significance of the results are ideal. However, the writing up of some experimental work lends itself to a review, some details of methodology and materials particular to that piece of work, results and discussion which then lead to another set of experiments.

The following are indispensable for the theses:

- i) All relevant data from the experimental work must be included; with figures, tables and photographs inserted (where necessary for clarity and conciseness) at the appropriate point in the text.
- ii) All numerical data must be reported in SI units or other agreed units and all dimensions must be included.
- iii) In discussion of the significance of the results, an objective explanation must be given, together with statements about assumptions made, important sources of error and the extent to which the results agree or disagree with published literature. The discussion must demonstrate ability to interpret results and should not just be a description of them.
- iv) Comparisons must be made with literature published since the commencement of the experimental work. This will require a search for the latest literature.

## **Conclusion**

A conclusion is highly desirable and is particularly important where several distinct areas have been dealt with in separate chapters. The conclusion, in this case, serves to put together the overall conclusions arising from the experimental work. The conclusion also serves to show how the original objectives detailed in the introduction were fulfilled, to show how hypotheses stood up to testing and to highlight directions for future research.

## **Appendix**

Appendices are convenient devices at the back of the thesis for listing detailed methods of analysis, raw data and statistical evaluation of data which, if located in the main body of the thesis, would seriously detract from the readability of the thesis.

## **Bibliography**

There are many variations in the formats used for citing published literature.



## **ORGANISATION OF THESIS**

Theses or project reports acceptable to the Department should contain the following general sections:

- i) Title page, declaration, acknowledgement(s), table of contents, abstract.
- ii) Introduction
- iii) Materials and Methods
- iv) Results
- v) Discussion
- vi) Conclusions
- vii) Appendices,
- viii) Bibliography.

The exact format will vary from thesis to thesis and should be discussed with the supervisor. Where the thesis consists of several discrete sections, it may be appropriate to group together the Materials and Methods, Results and Discussion for each one into a separate chapter.

### **Title page, declaration, acknowledgement and table of contents**

The University requires a title page, showing the title, candidate's name, degree and year of submission, and a statement signed by the candidate: "I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgement is made in the text." If the candidate wishes to acknowledge the help of others during the program, then this should be done on the page following the declaration.

The University also provides a form entitled "Declaration relating to disposition of project report/thesis" which has to be signed and pasted on the frontispiece or inside cover of the thesis.

The table of contents should list all the major and minor sections of the thesis with the appropriate page number. Each section of the thesis should be numbered in sequence and titled as shown below. (If the thesis is detailed a separate index to tables and index to figures may be appropriate.)

## MORE LETTER PRACTICE

Read the business letter below. The person who wrote it was in a rush to finish it and made a lot of mistakes. Work with a partner. There are 16 mistakes in all. Try to correct them.

### **XENON Communications** IN TOUCH WITH TECHNOLOGY

22st February

#### **Re Enquiry about the DigiCom System**

My dear Ms Robinson,

thank you for your letter from Feb 9 and for your interest in the new Xenon digital communication system.

I am such sorry you were disabled to attend our presentation in Sao Paulo last month, but I am delighted to tell you we are planning another one in Brasilia on April 30.

In the mean time, I enclose a cpy of our last catalogue and currant prize list.

If you have any questions or would like further informations concerning our company and its products, please don't hesitate but contact me again.

I look forwards to hearing from you.

Yours fatefully,

Rudolf Kinski

pp Brian Green

## Your request for our catalogue and price list

As requested, we enclose for your attention our price list and catalogue. I should like to take this opportunity of drawing your attention to the fact that all our products are manufactured from completely natural ingredients and that we do not utilise any artificial additives whatsoever.

There are 213 different items in the catalogue and our prices are reasonable and the quality is good. This is the first time that we have included Scratch'nSniff samples of our ten most popular aromas.

Should you require any further information, please do not hesitate to contact us. If the undersigned is unavailable, the Sales Manager's Personal Assistant will be delighted to assist you.

We look forward to receiving your esteemed order in due course.

Yours faithfully

Genevieve Grace, Sales Manager

Dear Conference Participant,

I am very \_\_\_\_\_ that you will be \_\_\_\_\_ part \_\_\_\_\_ our first joint International Conference with the Teacher Development Special Interest Group of IATEFL., "Linking ELT Professionals for the New Millennium", \_\_\_\_\_ Split later this month. You will be one of some 150 \_\_\_\_\_ from 10 \_\_\_\_\_.

The conference \_\_\_\_\_ inaugurated \_\_\_\_\_ 8.30 pm \_\_\_\_\_ Thursday, 24 February, \_\_\_\_\_ the Hotel Marijan. Following a brief ceremony, we have pleasure \_\_\_\_\_ inviting you \_\_\_\_\_ a welcome drink. I \_\_\_\_\_ forward \_\_\_\_\_ seeing you there!

With best wishes

Yours sincerely

Robin Evans  
Director, Croatia

## ACADEMIC TEXTS

### **BASIC FEATURES:**

- impersonal style (e.g. Passive forms)
- clear, concise language
- rational, critical attitude
- no colloquialisms

### **FUNCTIONS:**

- describing processes and procedures
- giving descriptions and definitions
- classifying, generalising
- comparing and contrasting
- interpreting data
- speculating, predicting
- discussing, drawing conclusions

### **TYPES:**

- reports
- dissertations
- articles
- project proposals
- conference reports
- manuals, etc.

# STRUCTURE OF THE ARTICLE

**TITLE**  
Authors/Institution

**ABSTRACT**

1. basic information
2. main goals of study
3. main results
4. conclusions/suggestions

**INTRODUCTION**

1. definition of the problem
2. references (other studies)
3. search techniques

5-10 %

**METHODOLOGY/MATERIALS**

1. description of materials
2. method
3. statistical data

40-60 %

**RESULTS**

article

1. referring to results (tables, graphs)
2. findings
3. comments

Central part of the

**DISCUSSION**

1. confrontation of research hypothesis with obtained results (i.e. presentation of principles and relationships)
2. how your study agrees/disagrees with the research so far
3. theoretical and practical implications of your results

30 %

**ACKNOWLEDGEMENTS**

thanking for help, ideas, suggestions, interpretations, equipment, materials

**REFERENCES**

## BASIC EXAM SKILLS: CLUE WORDS

In essay exams, every question contains a **Clue Word**. **Clue Words** are the words that the lecturer uses to indicate what angle he or she want you to take when answering the question. **Clue Words** tell you exactly what to do in your essay, so they are extremely important in essay exams. An essay exam is like a mental game in which the lecturers tell you what you want. To play the game successfully you need to be aware of the precise meanings of the clue words in the questions. Once you have found the clue words and worked out exactly what they mean, you can answer the question as clearly as possible.

For example:

»Compare the goals of liberal and socialist feminism.«

The clue word in this question is **compare**.

If the question asked you to »**Evaluate** the goals of...«, it would require a completely different answer.

The following is a list of the most common clue words and their meanings in exam questions to help you prepare for essay exams. Because the list is long, it is a good idea to read through past exam papers to familiarise yourself with the most commonly used clue words in your discipline. Many schools have past exam papers in the library.

### Clue Word                      **Meaning**

✓ <b>Analyse</b>	To find the main ideas, how they are related and why they are important
✓ <b>Comment on</b>	To discuss, criticise, or explain its meaning as completely as possible
✓ <b>Compare</b>	To show both the differences and the similarities.
✓ <b>Contrast</b>	To compare by showing the differences.
✓ <b>Criticise</b>	To give your judgement or reasoned opinion on something, showing its good and bad points. However, it is not necessary to attack.
✓ <b>Define</b>	To give the formal meaning by distinguishing it from related terms. This is often a matter of giving a memorised definition.
✓ <b>Describe</b>	To write a detailed account or verbal picture in a logical sequence or story form.
✓ <b>Diagram</b>	To make a graph, chart or drawing. Be sure to label it and add a brief explanation if necessary.

✓ <b>Discuss</b>	To describe, giving the details and explaining the positives and negatives of something.
✓ <b>Enumerate</b>	To list. Name and list the main ideas one by one.
✓ <b>Evaluate</b>	Give your opinion or some expert's opinion of the truth or importance of a concept. Show the advantages and disadvantages.
✓ <b>Illustrate</b>	To explain or make clear by concrete examples, comparisons or analogies.
✓ <b>Interpret</b>	To give the meaning using examples and personal comments to make something clear
✓ <b>Justify</b>	To give a statement of why you think something is so. Give reasons for your statement or conclusion.
✓ <b>List</b>	To produce a list of words, sentences or comments. Same as enumerate.
✓ <b>Outline</b>	To give a general summary. It should contain a series of main ideas supported by secondary facts. Show the organisation of the idea.
✓ <b>Prove</b>	To show by argument or logic that something is true. However, the word 'prove' has a very specific meaning in maths and physics.
✓ <b>Relate</b>	To show the connection between things, telling how one causes or is like another.
✓ <b>Review</b>	To give a survey or summary in which you look at the important parts and criticise if necessary.
✓ <b>State</b>	To describe the main points in precise terms. Use brief, clear sentences. Omit details or examples.
✓ <b>Summarise</b>	To give a brief, condensed account of the main ideas.
✓ <b>Trace</b>	To follow the progress or history of the subject.

# HOW TO COMPILE THE REFERENCES SECTION

The references section is made up of a list of the papers, books, articles etc. that you have cited in the text of your work. It is placed at the end of your document, before any appendices.

## Points to note:

- Each reference is listed only once.
- There are minor variations in the way the lists are cited for different house styles, as, for example, in the position of the date, the use of italics, quote marks etc. **It is important to find out exactly the form that your department requires**, and to stick to it rigidly.
- Be sure that every full-stop or comma is in the right place, and all other aspects of the formatting are correct. Formatting of references is riddled with convention, and lecturers often check this area very thoroughly.
- There are standard abbreviations for the journals. Don't make them up – ask the librarian. One of the most convenient publications for checking journal abbreviations is *Periodical Title Abbreviations*, Volumes 1-3, edited by L.G. Alkire, and published by Gale Research Company, Detroit, Michigan.

## Examples of how to list various sources

### 1. Papers and journals:

- o Surname and initials of the author(s) (surname first, followed by the initials).
- o The year of publication (in brackets).
- o Title of paper.
- o The name of the journal (in italics or underlined and in its correctly abbreviated form. For instance, the journal abbreviation in the first example below (Bull. Inst. Math. App.) is the correct way to cite Bulletin of the Institute of Mathematics and its applications. The abbreviation in the second example is that for Scientific American.
- o The volume number of the journal (underlined or in bold).
- o The numbers of the pages on which the paper begins and ends. Note: the actual page from which your information is taken is not cited.

### **Examples:**

Hart, V.G. (1982) The law of the Greek catapult. *Bull. Inst. Math. App.* **18**, 58-63

Soedel W. and Foley V. (1979) Ancient catapults. *Sci. Am.* **240**, 150-160.



## 2. Books

- o Surname and initials of the author(s) (surname first, followed by the initials).
- o The year of publication.
- o Title of the book (underlined or in italics, and with the 'main' words (everything except articles, prepositions and conjunctions) capitalised).
- o If there is a subtitle, it is separated from the main title by a colon (:).
- o Title of series, if applicable.
- o Volume number or number of volumes, if applicable.
- o Edition, if other than first.
- o Publisher.
- o Place of publication.
- o Page numbers of the material quoted. **Note:** if you need to cite different parts of a book, it is acceptable to leave out the page numbers.

### **Examples:**

Stroustrup, B. (1991) *The C++ Programming Language*. Second edition. Addison-Wesley, Reading, Massachusetts, pp 225-253

Barret, C.S. and Massalski, T.B. (1980) *Structure of Metals: Crystallographic Methods, Principles and Data*. Third edition. Pergamon Press, Oxford, pp 73-98.

## 3. A chapter or article in a book edited by someone else: the 'In' citations:

- o Surname and initials of the author(s)
- o The year of publication.
- o Title of chapter or article in quotation marks.
- o Title of book, underlined or in italics. This is preceded by 'In:'
- o Volume number, if applicable.
- o Editor(s) – preceded by 'Ed:' or 'Eds:'.
- o Publisher.
- o Place of publication.
- o The number of the pages on which chapter begins and ends.

### **Examples:**

Hall, J.E. (1992) 'Treatment and use of sewage sludge'. In: *The Treatment and Handling of Wastes*. Eds: A.D. Bradshaw, R. Southwood, and F. Warner. Chapman and Hall, London. pp 63-82.

Thomas, C.J.R. (1993) 'The polymerised chain reaction'. In: *Methods in Plant Biochemistry*, Vol. 10: *Molecular Biology*. Ed: J. Bryant, Academic Press, London. pp 117-140.

#### 4. Paper in the proceedings of a conference:

- o Author(s)/date/title of paper as for journal paper (above), but in addition:
- o State the number of the conference, its title theme, the place it was held and date.

**Example:**

Bhattacharya, B., Egyd, O., and Toussaint, G.T. (1991) Computing the wingspan of a butterfly. *Proc Third Canadian Conference in Computational Geometry (Vancouver)*, Aug 6-10. pp 88-91.

#### 5. Student project:

**Example:**

Cox, M.J.M. (1994) Improvement of a hang-glider's stall characteristics. Mechanical Engineering project, School of Engineering, The University of Middletown.

#### 6. Newspaper article:

**Examples:**

*When the author is known:*

Nicholson-Lord, D. (1995) Does work make you stupid? *Independent on Sunday*, 29 January, p 21.

*When the author is unknown:*

*Northern Herald* (1995) Rare bird ruffles experts' theories. 12 January, p. 20.

#### 7. Thesis:

**Example:**

Inman, M.E. (1994) Corrosion of carbon steel in geothermal systems. PhD thesis, The University of Middletown.

#### 8. Engineering standards

- o Include both the title and the reference number.

**Example:**

ACI Committee 318, 1989. *Building Code Requirements for Reinforced Concrete and Commentary*, American Concrete Institute, Detroit.

## 9. Magazine article:

### **Examples:**

*Where the author is known, put the author first:*

Schaer, C. (1993). Gene genius. *More*, December, 70-76.

*Where the author is unknown, put the name of the magazine first:*

*Consumer* (1993) Shades of green. Number 322, p 16-19.

## 10. Government and legal documents:

- o Cite the complete title.

### **Examples:**

World Health Organisation (WHO) (1977) *Manual of the Statistical Classification of Diseases, Injuries and Causes of Death: Based on the Recommendations of the Ninth Revision Conference, 1975, and Adopted by the Twenty-ninth World Health Assembly*, Vol. 1, WHO, Geneva.

*This would be cited in the text as WHO (1977).*

Department of the Environment (1988) *Integrated pollution control: a consultation paper*. DoE: London.

## 11. Personal communications:

- o Personal communications are not cited in the References section. If you have a number of them and to give them authenticity, you may like to have a separate section for them, citing the surnames, initials and affiliations of the people cited.

## 12. Lecture handouts:

### **Examples:**

*If the writer's name is stated:*

Seidel, R. (1996) Robotics. Lecture handout, Engineering and Society, The University of Middletown.

*If the writer is unknown:*

Wetlands (1996). Lecture handout, Conversation Ecology, The University of Middletown.

### 13. Laboratory manual:

**Example:**

Strain measurement (1996). Year Two Mechanical Engineering Laboratory Manual, The University of Middletown, 46-49.

### 14. Material from the Internet:

The Internet, particularly the Frequently asked Questions sections, is increasingly being accessed by students for material relevant to their project work. It has to be remembered that these citations cannot be regarded as being as solidly based as those of the conventional sources, which are accessible via libraries and which will reliably exist over a long period of time.

There are not yet any conventions as to how to cite this material. The following suggestions are only tentative:

- o It may be wise not to include references to the Internet in the references itself, but to follow with a separate section called Internet sources.
- o The sources could then be cited as follows:

**Example:**

Internet newsgroup 'comp. compression' (1995) Frequently Asked Questions Part I, Subject [17]: *What is the state of fractal image compression?* Entry from P Mair <[mair@zariski.harvard.edu](mailto:mair@zariski.harvard.edu)>.

*Such a source could alternatively be cited as a personal communication.*

# ABSTRACT

## AN ABSTRACT SHOULD ANSWER THE FOLLOWING QUESTIONS:

- a) WHY was the experiment done?
- b) HOW was the experiment done?
- c) WHAT were the main results?
- d) WHAT were the principal conclusions from the results?

## ANSWERS SHOULD INCLUDE:

- a) the objective and topics covered
- b) the methods used (especially nothing new or unusual methods), the basic principle, range of operation and degree of accuracy of the new method.
- c) new data summarised
- d) your results.

# INTRODUCTION

The introduction is the most important section of a scientific article and yet it is often the most difficult to write.

Rather than writing it first, a better strategy might be to write it last when you've finished writing up the experimental results and the discussion of them.

## THE CONTENT OF AN INTRODUCTION TYPICALLY ANSWERS THE FOLLOWING:

- a) WHAT is the subject of the paper?
- b) WHAT is the area of interest and what have other researchers found?
- c) HOW does the current research relate to previous research?

WHAT is the research objective and WHAT is the research objective and WHAT hypothesis