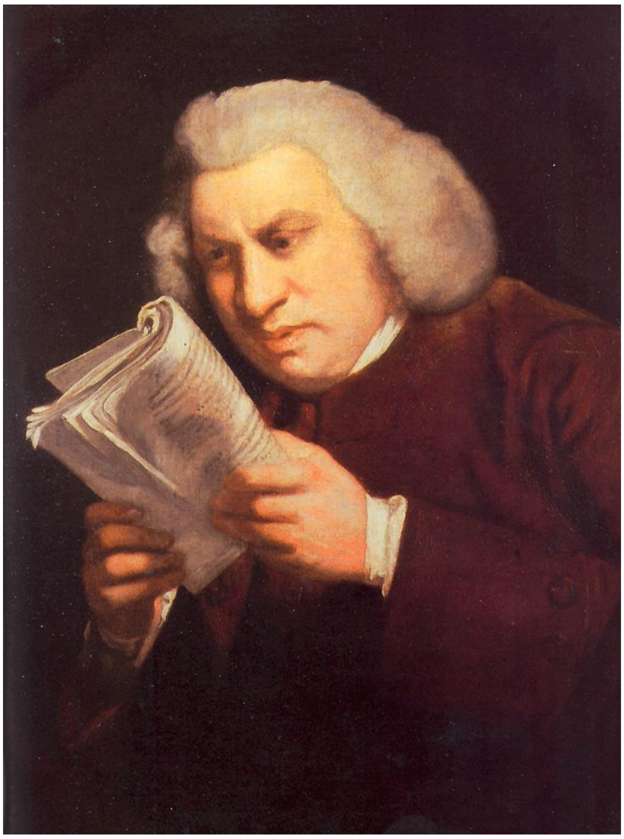
Writing a Research Paper in English



Prepared for South Ural State University by Tony Bryan and Ksenia Volchenkova This version of the teaching aid was prepared in June, 2015.

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Contents

Unit 1.1: Developing an Effective Writing Process

1. Think about why you want to write academic papers in English. In pairs, discuss the following questions:

a) Is it what you want to do or what someone else wants you to do?
b) What do you hope to achieve?
c) How determined are you to succeed?
d) How much experience do you have of writing academic papers?
e) How much experience do you have of reading academic papers in English?
f) Do you have any experience of writing academic papers in English?

2. Fill in the following SWOT analysis:

Strengths What strengths do I have that will help me to write academic papers in English?	**Weaknesses** What weaknesses do I have that will prevent me from writing academic papers in English?
Opportunities What opportunities are open to me to help me to improve my academic English, and further my research career?	**Threats** What potential new problems could I face if I try to write papers in academic English?

3. Discuss the SWOT analysis with your neighbour:

a) What can you do about your weaknesses?
b) What can you do to avoid or deal with any potential new problems?

4. Use the words in the box to fill in the gaps in the text below:

cited	non-expert	directly	model	topic	style	evaluate
resources	organization	draft	contribution	motivation	sections	
appropriate	vice versa	phrases	carelessly	time		

Adrian Wallwork (2011) gives the following advice about how to prepare to write:

- Think about what your (1)____________ is for writing is so that you have a reason to write.
- Have a plan and allow plenty of (2)________ as it will probably take longer than you first think.
- Consult with your professor and colleagues about the most (3)____________ journal where you can publish your research, preferably one with a high impact factor
- Match your (4)___________ to the journal, or (5)_____________________________
- Download the guidelines for authors – these will tell you about the (6)___________ and structure of your paper
- Choose frequently (7)_________ papers in the journal to see how other authors construct their argumentation, and note down ways in which your research is different and innovative with respect to theirs
- Choose one paper as a model onto which to map your research, imitating the style and (8)___________________. This model should be written by a native English speaker
- Note down useful / standard (9)__________ from your (10)__________ paper which you can then use in your own paper
- Decide on the best order to write the various sections of your paper. It is generally best to start with a very rough (11)___________ of the Abstract, and then whichever section is clearest in your head (generally the Materials and Methods)
- Consider having separate documents for each section. This enables you to work on several (12)__________________ at the same time
- Make sure your unique (13)_________________ to your community is very clear in every section, not just in the Abstract
- Write in a way that even a (14)_______________ can understand
- Give mini-presentations about your research to colleagues
- Referees work for free and often outside working hours – never submit a (15)____________ written manuscript
- Access referees report forms to understand the ways that referees will (16)______________ your work. Always aim to please the referees (even before your work is reviewed).
- Write (17)________________ in English, and use every opportunity for improving your writing skills
- Use online (18)_____________________ and look out for calls for papers.

Source: Based on Wallwork (2011).

5. Wordsearch.

C	O	M	M	U	N	I	T	Y	W	I	C
O	S	G	I	A	K	O	M	S	T	M	B
N	T	O	O	D	L	M	K	C	U	P	V
T	W	M	I	C	J	O	U	R	N	A	L
R	I	A	G	V	Y	D	P	E	R	C	A
I	M	P	R	O	V	E	J	F	X	T	S

B	S	E	F	T	N	L	T	E	R	F	U
U	R	F	H	N	M	O	Y	R	E	A	Q
T	Y	C	P	H	R	A	S	E	K	C	M
I	P	E	F	C	P	G	H	E	E	T	I
O	R	G	A	N	I	Z	A	T	I	O	N
N	R	H	N	M	I	O	L	M	S	R	O

a) Identify ten words or phrases about preparing to write in the box above.
b) Working in pairs, discuss what each word or phrase means.

6. Work with a partner and discuss the following questions:

a) How difficult is it to make time to write a research paper?
b) How difficult is it to estimate how long it will take you to write a paper?
c) What is the most useful piece of advice that Wallwork gives?
d) What is the least useful piece of advice that Wallwork gives?
e) Why might it help to give a mini-presentation of your research to colleagues?
f) Think of one new piece of advice that you would give to someone thinking of writing a research paper.

7. Talk to your groupmates and find someone WHO:	**Name**	**Comments**
1. Has experience of writing papers in English		
2. Has published a paper in a high impact factor journal		
3. Has communicated with the editor		
4. Has translated the Abstract of his or her paper using Google translate		
5. Has translated papers for colleagues		
6. Has ever read a style guide or instructions for authors		
7. Knows the secrets of writing research papers and can share them		

8. In your own time, find Journal Citation Reports (Thomson-Reuter) on the internet.

a) Look up the impact factor of your favourite journal.
b) Look up the impact factor of other journals. Are the results what you expected?

Unit 1.2: Reading for Writing

1. Put the following sentences into the right order to give useful advice. Use them to fill in gaps 1-10 of the grid below.

a) The first reason is that you must study journal articles so that you can write good articles yourself.
b) When studying the structure of articles you should note how the article is divided into sections.

c) When studying the language of articles you should look for useful words and phrases that you can use yourself.
d) Consider what each section contains and how the sections are linked to form an overall argument.
e) Also note whether the language used is personal (using "I" and "we") or impersonal and passive.
f) There are two main reasons why you should read widely in order to write well.
g) A second reason for studying journal articles is that you need to be familiar with the English-language literature in your field of research.
h) You will need to include a literature review in your own article.
i) Reading is a vital part of the writing process.
j) By studying journal articles you can learn about the structure and language of articles.

1	i) Reading is a vital part of the writing process.
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

2. Now reorder the words in the sentences below and fill in gaps 11-14 above:

k) some of it/A final/for free./advantage/that/is/downloaded/can be
l) allows you/generate references./searchable notes/save articles,/ network with other academics, /make/to/The software/and
m) It is a/software./to consider/management/reference/using/good idea
n) literature review/You can make/by making/about/(an "annotated bibliography")./notes/each article/this/more useful

3. In pairs, discuss:

a) Do you agree with the advice in the grid above?
b) What can you learn from journal articles that will help <u>you</u> to write?

c) Can you tell what referees are looking for by reading the articles in a journal?
d) Why is the opinion of referees so important?

4. Read the text below:

The academic John Swales has argued that the academic world consists of "discourse communities". These are groups of people with common goals or purposes, expressed in discourses, and who use communication to achieve their goals. Swales uses "discourse" to refer to a cluster of ideas, related to some functional purpose, expressed in speech or text. Discourse communities have six characteristics: 1) Common public goals;

2) Mechanisms of intercommunication;
3) Participatory mechanisms for giving information and feedback;
4) A set of genres (types of texts with a specific purpose) which they use;
5) Specific vocabulary or jargon;
6) Members with relevant knowledge and expertise.

a) Do you agree that we can usefully think of the academic world as a set of "communities"?
b) Do you see yourself as belonging to a disciplinary community (e.g. a Physics community)?
c) Do you see yourself as belonging to a sub-disciplinary community (e.g. a Nuclear Physics community?)
d) Do you see yourself as part of an international disciplinary community?
e) Can you identify the six characteristics listed above in your own community?
f) How important are academic journals to maintaining a sense of community?

5. Read the following example of an entry from an annotated bibliography:

Waite, L. J., Goldschneider, F. K., & Witsberger, C. (1986). Nonfamily living and the erosion of traditional family orientations among young adults. American Sociological Review, 51 (4), 541-554.

The authors, researchers at the Rand Corporation and Brown University, use data from the National Longitudinal Surveys of Young Women and Young Men to test their hypothesis that nonfamily living by young adults alters their attitudes, values, plans, and expectations, moving them away from their belief in traditional sex roles. They find their hypothesis strongly supported in young females, while the effects were fewer in studies of young males. Increasing the time away from parents before marrying increased individualism, selfsufficiency, and changes in attitudes about families. In contrast, an earlier study by Williams cited below shows no significant gender differences in sex role attitudes as a result of nonfamily living.

Source: Cornell University Library (2015).

6. In pairs discuss:

a) Have you ever used a published annotated bibliography?
b) If so, was it useful? Why (not)?
c) Have you ever made your own annotated bibliography when preparing to write an article yourself?
d) What sort of notes do you think it would be useful to make about articles, when compiling one?

7. In pairs discuss:

a) What do you understand by reference management software (also called “citation management” software)?
b) Have you ever used reference management software?
c) Do you use any software or websites for social networking with other academics?
d) Which are the most useful? Would you recommend them?
e) Why is it important to network with other academics?

8. In your own time:

Look at the reference management software comparison at:
https://www.library.wisc.edu/services/citation-managers/comparison-chart/
Try to find out what you can about at least one piece of reference management software. Report back to the other members of your group about what you have learned. Can you recommend this software?

Unit 1.3: Starting to Write

1. Read the following advice:

When should you begin to write?
The standard advice given to researchers nowadays is to begin writing as early as possible. The reason for this is that writing can seem like a daunting task if it is left until the end of the research process. The more literature and data you accumulate, the more you will have to write about. By doing it as you go along you make the task more manageable. Of course, it is not realistic to write up sections such as the Discussion until all the results have been finalised, and the Abstract is usually not written until the whole paper is finished. However, it is certainly possible to write sections such as the Introduction, Literature Review and Methods while the research is under way.

What should you begin to write?
You should not begin to write any part of the article until you have first written a plan. Your plan should outline the structure of your paper in detail. The basic techniques of outlining are discussed below in Unit 1.4. In addition you should try to estimate how long it will take you to write each section. Wallwork (2011) suggests that writing often takes twice as long as people estimate. Certainly most people underestimate how time-consuming the writing process can be.

What else should you do before beginning to write?
You should already have a journal in mind for your article. Download the advice or guidelines for authors (often called a "style guide") from the publisher's website. The advice it gives is usually very detailed. Read it carefully and make sure you follow it. One common problem is to use the wrong spell-checker; if you are writing for a British journal use British spelling standards, if for an American journal use US standards.

What should you do in the middle of writing?
Get advice as you go along. Find someone you trust who is prepared to take an interest in your paper. This should be someone who knows the academic field well; the most important thing is that the paper is academically sound. Give them drafts of each section as you complete them and ask them to give you feedback. Consider their advice carefully and be open to constructive criticism. Then revise your draft to improve it. When you have a draft which is academically sound, ask an expert in English to proofread it. Again, be prepared to clarify your own meaning and to make corrections. Be aware that the proofreader may not be an expert in your field: make sure that any correction they suggest does not alter what you mean to say.

What shouldn't you expect?
Don't expect your friendly critic and your proofreader to take responsibility for your paper. It is up to you to make sure that it is as good as it could be. In particular, you should proofread the paper yourself before submission. In the end, you know what you intend to say better than anyone else. Make sure you say it accurately.

2. Match the following words and phrases to their definitions:

1) style guide 2) constructive 3) submission 4) critic 5) draft 6) outline 7) clarify 8) daunting 9) proofreader 10) underestimate	a) To make too small a judgement about a quantity b) Someone who gives a positive or negative opinion about something c) To make clear d) The action of forwarding something, e.g. a document, for a decision to be made e) Someone who checks a written or printed document for errors f) Intended to bring about an improvement g) An unfinished version of a document h) Worrying, frightening i) To sketch out the shape of something, without giving all the detail j) Standard advice to authors

3. Read the following text. Correct and improve the English:

Historically the invention of the transistor in 1947 started the development of microfabrication related disciplines. The need to assemble transistors on a single piece of semiconductor needed specific methods on microscale which drove the technology of microfabrication and later, the fabrication of integrated circuits resulted in much more enhanced need for these techniques wherein transistors were connected with each other and reconnected on the circuit board. Presently microstructures with features around 1μm are commercially available in semiconductor field. But most devices made up of 10 to 100μm structures are being utilized in the field of microelectronics, microfluidic devises, micro sensors, micro actuators etc which are mostly made of metallic materials. However ceramic materials are not much explored to this level of fine scale commercially and technology availability in this area is very limited globally. Much scope exists for development of fabrication methods to make ceramic structures having features in the order of 100 to 500μm; Alm et al (2005).

Source: Ramachandra Rao et al. (2014).

4. In pairs, discuss the following questions:

a) Which is more important, that the article is accurate and sound in terms of its content (e.g. results, analysis), or that it should be written in good English?
b) Why might poor English be a problem if you wish to be published in an Englishlanguage journal?
c) Why is it difficult to proofread your own work thoroughly?

5. **Read the following list of contents of a style guide and answer the questions below:**

Description

- Description of the *Journal of Eurasian Studies*

Editorial Board

- List of board members

Guide for Authors

- **How to submit**
- **Before you begin**
  - Ethics in publishing
  - Conflict of interest
  - Submission declaration
  - Changes of authorship
  - Copyright
  - Role of the funding source
  - Funding body agreements and policies
  - Open access
  - Language (usage and editing services)
- **Preparation**
  - Use of word processing software
  - Article structure
  - Essential title page information
  - Abstract
  - Highlights
  - Abbreviations
  - Acknowledgements
  - Units
  - Footnotes (incl. artwork)
  - Tables
  - References
  - Video data
  - Supplementary material
  - Submission checklist
- **After acceptance**
  - Use of the Digital Object Identifier
  - Online proof correction
  - Offprints
- **Author enquiries**

a) What is a "conflict of interest"?
b) What is a Digital Object Identifier? What is an offprint? What is a footnote?
c) What do you think "Units" refers to?
d) How might video data be useful to someone writing about materials science? About interpretive dance?
e) Why might a list of editorial board members be of interest?
f) Why do you think the guide discusses the role and policies of funding bodies?

6. **Read the following excerpt from the *Journal of Eurasian Studies* style guide:**

> *Introduction*
> State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

a) What important pieces of advice does it give the author?
b) Is this advice standard?
c) Why is it important to read the style guide before beginning to write a journal article?

7. **American versus British spelling:**

One important issue which a style guide will usually resolve is whether to use American or British spelling.

a) Separate the following words into American and British spellings.
b) What patterns can you see?

skillful	pediatrics	kilometer	paediatrics	installment
encyclopaedia	encyclopedia	fulfil	instalment	fullfil
colour	centre	favorable	color	
favourable	kilometre	skilful	center	

American	**British**

8. **In your own time:**

a) Find a journal which uses an article template e.g. many Elsevier journals do this. b) Download the template.
c) What is a template for, and why is it important?
d) How easy is it to use?

9. **In your own time:**

a) Choose an English-language journal in which you might be interested in publishing an article.
b) Download the style guide.
c) How detailed is it?
d) Are there any requirements which present a problem to you?
e) How helpful is the style guide?
f) Are there any technical instructions e.g. for submission in LaTeX format?
g) Are the technical instructions easy to understand?
h) How different are the requirements from the requirements of other journals?

i) Working in pairs, compare what you have found out with what your partner has found out.

Unit 1.4: Outlining and Reverse Outlining

1. Use the words in the box to fill in the gaps in the text below:

subsections	techniques	coherent	Bullet points	readability	argument
visually	topic	hierarchical	theme		

What are outlining and reverse outlining?

Outlining and reverse outlining are (1)______________________ for planning and for checking written academic work such as a research paper.

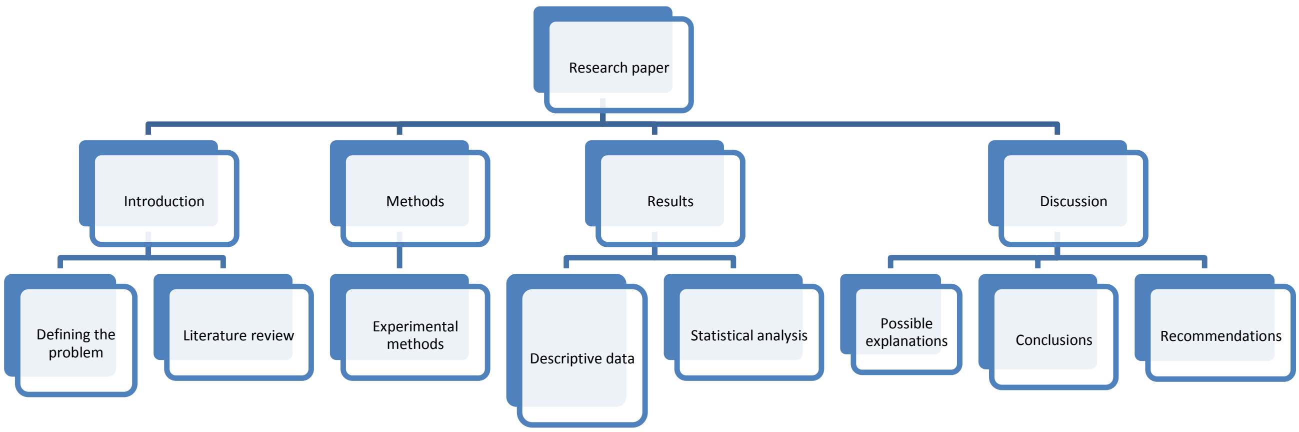
Outlining

Outlining is simply writing down plan for an article in (2)_____________________ form. It can be written as bullet points, as a chart, or as a spider diagram (see below).

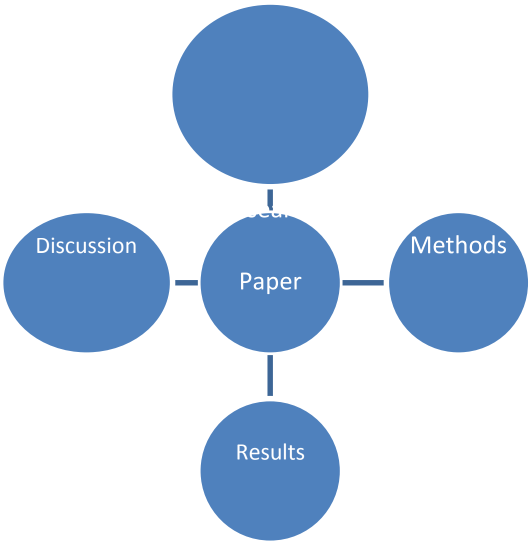
Bullet point outline

- Introduction ○ Defining the problem ○ Literature review
- Methods ○ Experimental methods
- Results ○ Descriptive data ○ Statistical analysis
- Discussion ○ Possible explanations ○ Conclusions ○ Recommendations

Hierarchical chart outline



Spider diagram outline (partial)



(3)__________________________ are the quickest method but the other two are (4)______________ stronger.

What does the outline show?

The hierarchy of the outline reflects the sections of the paper (e.g. Introduction, Methods, Results, Discussion), any (5)_____________________________ within these sections, and below these, paragraphs (identified by the (6)_______________ of the paragraph). A finished outline should provide the writer with a plan of how many paragraphs need to be written. It should show the structure of the overall (7)____________________, and that structure should be clear and (8)_______________________ (i.e. it all fits together).

What sections does the outline include?

This will depend on the type of paper you are trying to write, and also on the content of your article. For further detail, see the unit on structures.

How are the paragraphs written?

It is recommended practice when actually writing the paper to begin each paragraph with a 'topic sentence' which shows what the (9)______________ of the paragraph is. For example, a paragraph about the economic recession in the UK in 2008 might begin 'The economic recession which took hold of Britain in 2008 was deep and wide-ranging in its impact.' Authors do not always follow this rule slavishly in order to avoid becoming too robotic in their style, but in general topic sentences do improve the (10)___________________________ of papers.

2. **Think about the process of making breakfast. Don't forget to wash up!**
   - **a)** Write a detailed bullet point plan of how to make breakfast.
   - **b)** Now compare your plan with that of your neighbour.

3. **In your own time:**
   - **a)** Write the outline of an article that you are planning to write.
   - **b)** Show the outline to a neighbour and ask them whether is clear and coherent.
   - **c)** Revise the outline if necessary.
   - **d)** Ask your tutor for feedback.

4. **Read the following text:**

Reverse outlining simply reverses the above process, in order to identify the structure of the argument of a paper which has already been written. Thus an existing paper is examined, and its sections are identified as first-level bullet points. Within each section, every paragraph is given a lower-level bullet point. This briefly states the topic of the paragraph (e.g. 'Causes of the recession').

Once the outline has been created, the paper can be checked in two ways. Firstly the argument of the paper can be checked for clarity and coherence by examining the outline. Each paragraph should have a single topic, and each paragraph should contribute to the overall argument of the paper. Secondly the first sentence of each paragraph can be read to see whether the topic is clear and whether the argument flows logically. The technique can be used both to check the quality of a paper you have written yourself, and to provide a framework for note-taking when studying another author's paper.

5. Using the text above, decide whether the following statements are true or false:

- **a)** A reverse outline starts with the conclusion and works towards the introduction.
- **b)** A reverse outline may help you to take notes when studying another author's paper.
- **c)** Each paragraph of a paper should have a single topic.
- **d)** The sections of a paper are identified by lower-level bullet points.
- **e)** A reverse outline can be used to check the clarity and coherence of an argument.

6. In your own time:

- **a)** Select a journal article which interests you.
- **b)** Make a reverse outline to identify the structure of the paper.
- **c)** Check whether the argument is clear and coherent using both methods described above.
- **d)** How effectively is the article written?
- **e)** Could it be improved? If so, how?
- **f)** Compare what you have learned with your neighbour in class.

Unit 1.5: Selecting a Journal

1. Part 1: Use the words or phrases in the box to fill in the gaps in the text below:

book review	cited	non-native	empirical	medicine
profile	snowball	circulation	bibliography	academic publications
prestige	submitting	field		

In selecting a journal, the following factors need to be considered:

1) *Are you familiar with the English-language journals in your field?*
   Of course, as a researcher, you will be familiar with the key journals in your own area of expertise – in your own language. However, as a (1)______________________ English speaker, you may not be used to reading articles in English-language journals. Moreover, the world of (2)____ is constantly changing, as new journal titles appear. If you are unsure which journals to look at, ask for advice from colleagues who know about English-language journals in your field. Alternatively, try the '(3)________________' technique (see 2 below).
2) *Do you know how to 'snowball' a list of references?*
   Find a reference to an English-language article in your field. Look up the article, and then go through the reference list ((4)________________) of that article. That will give you several new articles to look at. Repeat this process until you have built up a useful list of relevant articles. Note which journals these articles appear in.
3) *Does the journal publish research about the sort of topic that interests you?*
   There is no point in (5)_____________________ an article about nuclear physics to a journal which specialises only in particle physics. Make sure you are familiar with the range of topics which the chosen journal covers.
4) *Does the journal publish the type of article that you want to write?*
   The suitability of the journal is not just a matter of finding one which covers your disciplinary (6)_____________ or sub-field. It also makes a difference whether the editors favour particular types of articles (e.g. theoretical as opposed to (7)___________________) or whether they favour particular approaches to the subject. These factors may affect your chances of publication.
5) *Are you willing to tailor (modify) your article to match the interests of the journal?*
   Sometimes when you are planning an article you have more than one possibility as your research may be taken in different directions. Are you prepared to modify your approach to increase your chances of publication? If not, there are alternatives to submitting an article: a (8)__________________________, or a letter to the editor, may raise your research (9)_________________.
6) *How prestigious is the journal?*
   It is partly a matter of subjective judgement how prestigious a journal is. Typical indications of (10)_________________ are: leading experts publish articles in the journal; the journal is frequently cited; the journal has a large (11)___________________; the journal has been published for a long time; and the journal is associated with new and influential ideas.
7) *What is the journal's impact factor?*
   The impact factor of a journal is a measure of how frequently its articles are (12)____________. It attempts to provide an objective measure of the prestige of a journal. It is not a perfect measure – for example, an article may be cited only to be criticised severely. Be careful when making comparisons. Journals dealing with (13)__________________ tend to have high impact factors. A journal dealing with say, history or linguistics is likely to have a lower impact factor. Compare journals in the same field, not in different fields.

2. Match the word or phrase (a-j) to its definition (1-10):

a) prestigious b) circulation c) cited d) empirical e) bibliography f) submit g) profile h) field i) modify j) editor	1) to give or offer something for a decision to be made by others 2) a person who corrects or changes pieces of text or films before they are printed or shown, or a person who is in charge of a newspaper or magazine 3) the amount of public attention and notice that something receives 4) a list of the books and articles that have been used by someone when writing a particular book or article 5) very much respected and admired, usually because of being important 6) the number of people that a journal, newspaper or magazine is regularly read by 7) an area of activity or interest 8) mentioned as proof for a theory or as a reason why something has happened 9) to change something such as a plan, opinion, law, or way of behaviour slightly, usually to improve it or make it more acceptable 10) based on what is experienced or seen rather than on theory

Source: Cambridge University Press (2015).

3. Using the text above, decide whether the following statements are true or false:

a) The impact factor of a journal is a measure of its circulation.
b) A letter to an editor may raise your research profile.
c) The world of academic publications is constantly changing.
d) The opposite of a theoretical article is a review article.
e) The snowball technique involves starting with an initial article, using its reference list to find new articles, and repeating the process.

4. In pairs, discuss the following questions:

a) Do you read English-language articles in your field?
b) If so, which journals do you read?
c) If not, why not?
d) Do you think it is important to read English-language articles in your field? Why (not)?
e) How difficult is it for you to read English-language articles in your field?

5. Part 2: use the words in the box to fill in the gaps in the text below:

waiver	peer-reviewed	subscription-only	referees
quality control	downloading	credit	budget
revise	article in press	anonymously	citation count

8) *Does the journal allow open access to its articles?*

Some journals allow access to their articles only if the user (or the library) pays for it ((1)_________________________). By contrast, some journals are completely open access – the user pays nothing for reading or (2)________________ the papers published. Some journals offer both methods of access, with open access just for selected articles. The potential advantages of open access are that your work can reach a wider public, and it may also increase your (3)______________________ (how often somebody else refers to your article in their own publication).

9) *Does the journal charge an article handling fee for publication?*

One of the potential disadvantages of open access journals is that they replace subscription income from readers with an article processing charge to be paid by authors. This means it is sometimes expensive for an author to publish. There are various solutions to this: (i) when making a grant application, include publication charges in the (4)__________ for the project, so that the funding body will pay the charges; (ii) the university or department can pay the charges; or (iii) the author can ask the journal for a (5)____________ (this means that the journal agrees not to make a charge) on the grounds that s/he cannot afford the charge.

10) *How quickly will the article be published?*

Sometimes with sensitive research in a competitive field, there is a race to publish results in order to gain (6)_______ for a new discovery or theory. The publication process can be lengthy due to the need to revise the article after peer review (see below), and this means that authors can spend several anxious months waiting to find out whether their article will be published or not. Different journals work at different speeds. You may be able to get advice from a colleague on how quickly a particular journal works. There are two ways in which your research may be protected from being copied. The first is that some journals publish the first draft of the article online as an "(7)_____________________" (about to be published). This is not the same as the final (revised) version of the article, but it shows that you are the author of the ideas it contains. A second alternative is to publish a draft article in an open access repository. An open access repository allows researchers to deposit time-stamped versions of their articles in an online database. An example is www.arxiv.org (for scientists). The advantage is that the author can immediately establish ownership of a new idea. The possible disadvantage to readers is that some of these articles have not been (8)__________________________.

11) *Will the article be peer-reviewed?*

Peer review means that experts in your field (peer reviewers, or (9)______________) read through your article prior to publication and make written comments about its quality. These comments are usually made (10)____________________. This process may lead to acceptance of the paper without amendment, rejection of the paper as not worthy of publication, or a request for the paper to be amended. The third option is the most common. The author is then expected to (11)___________ the paper in the light of the comments and to resubmit it for publication. Peer review is intended to provide "(12)______________________" in academic publishing, so that fake or inaccurate research does not get published.

6. **In pairs, discuss the following questions:**
   a) Can you name any open access journals in your field? How prestigious are they?
   b) Have you ever considered publishing an article in an open access journal?
   c) Do you think it is a good idea for you to publish in an open access journal?
   d) Who pays article processing charges in your department?
   e) Have you ever considered using an open access repository?
   f) How important is peer review to the research process?
   g) Have you ever had feedback from a peer reviewer? What form did it take? Was it useful to you?
   h) Do you / would you work as a peer reviewer (unpaid)?

Unit 1.6: Open Access Publishing

1. **Read the text below:**

What is the difference between Green and Gold Open Access?
There are two main routes to making your research open access.

Green Open Access

- The author makes the work available by archiving it in a repository. This may be an institutional repository (such as a university repository) or a subject-based or central repository, (such as PubMed Central or arXiv).
- Usually this version should be the author's final pre-publication version – the peerreviewed, accepted manuscript. No charges are payable.
- Access may be subject to an embargo, depending on the publisher's self-archiving policy.

Gold Open Access

- The work is made freely available to the end user via the publisher's website. An APC (article processing charge) is usually charged.
- The version made available is the final publisher's version.
- The work is available immediately, with no embargo periods.

If you would like to make your work available under gold open access, you will need to have access to appropriate funding. APCs vary considerably across publishers, but will typically cost between £1500-£2000 plus VAT.

If your research is funded by a funding body, its money may be able to pay the APCs for you.

Source: Newcastle University (2015)

2. **Answer the following questions about the text above:**
   a) What is an institutional repository?
   b) What is the "pre-publication" version of an article?
   c) What does APC stand for and what is it?
   d) What is an embargo?
   e) Who may pay the cost of an APC?
   f) What is Green Open Access?
   g) What is Gold Open Access?

3. **Split into four groups or pairs: A,B,C and D.**
   a) Read the text (A,B,C or D) corresponding to your group (group A reads text A, etc.).
   b) Check the meaning of the words for your group in the boxes below (Group A to do the words in box A etc.).
   Either look the words up or ask your tutor for help.
   c) Make a list of the key points in your text (about six or more).
   d) Present what you have learned from your text to the other groups in a brief (no more than five minute) presentation.

A	B	C	D
paywall immoral correlation causation outlet waiver fee squandering rebuttal hire	eviscerated subscription immoral accessible demonise incentive academia perniciously proponent old guard perpetrator	hoax fake wild west bogus fabricated affiliated shortcomings flawed acceptance rejection derelict	repositories myth tenacious misconception deposit tallies comprehensive author- initiated vindicated sting execrable compatible

4. **As a whole class, discuss what you have read. Should all articles be published in Open Access form?**

5. **Text A.**

Hiding your research behind a paywall is immoral

Publishing science behind paywalls is immoral. There, I said it.
I know, I know. It's an easy trap to fall into – I've done it myself.

If you are a scientist, your job is to bring new knowledge into the world. And if you bring new knowledge into the world, it's immoral to hide it. I heartily wish I'd never done it, and I won't do it again.

But aren't there special cases?I really need to publish in Science/Nature/Cell for my career No. Michael Eisen, cofounder of the Public Library of Science (PLOS), doesn't believe this is true and makes a strong case that we're confusing correlation with causation. He notes that fewer than half of biology hires at Berkeley in the last decade have published in Science, Nature or Cell. Berkeley!

And if you really and truly believe in your heart that your work will be judged by the journal it appears in rather than by its merit (perhaps because you work in France, where assessment policies do depend on impact factors) then there are highly regarded open-access outlets such as PLOS Biology (rated number one for biology in the Journal Citation Reports) and eLife (which is too young to have an impact factor but was established precisely to compete in the Science 'n' Nature space.)

But I can't afford article processing charges (APCs)
No. First of all, more than half of open-access journals don't charge a fee at all. Among those that do, the average fee is $906 (£563) – a tiny proportion of most research grants. PeerJ, which launches this month, charges a one-off fee of $299 for a lifetime's publications. Most fee-charging open-access

journals offer waivers - for example, the no-questions-asked waiver at PLOS, where the philosophy is explicitly that no one should be prevented from publishing by lack of funds.

But this paper is a rebuttal, and we want to submit to the same journal, because
No. The scientific conversation doesn't happen within the pages of any given journal, it happens across all journals.

But, but, but
No, no, no. We're scientists. Our job is to make knowledge. If we make it, then brick it up behind a wall, we're wasting our time and our funders' money – which ultimately means we're squandering the world's wealth. Publishing behind paywalls is immoral. We have to stop doing it, now and for always.

Source: Abridged from Taylor (2013).

6. Text B.

Those who publish research behind paywalls are victims not perpetrators
Labelling scientists who publish in traditional journals as 'immoral' only hinders the cause of open access publishing.

Last week, Mike Taylor eviscerated scientists for "hiding" their work in traditional journals that can only be read by taking out a subscription. It's difficult to dispute the position that publicly funded research should be freely accessible to the public. But do scientists who follow accepted publishing practices deserve to be labelled "immoral", as Taylor claims?

At best, this position paints a simplistic view of the incentive structures in academia. At worst it demonises the most vulnerable victims of the current system – junior researchers – and threatens to prejudice whole communities of scientists against open access publishing.

Taylor's position is derailed by one issue that permeates university-led science across the world. In many (if not most) fields, the journals in which we publish are judged to be an indicator of professional quality. This isn't a good thing, as the evidence linking journal rank with the merit of individual articles is weak to moderate, at best. But here science is bad at being scientific: the actual quality takes second place to the perception of quality.

This fact stands in the way of open access because OA journals make up few of the "topranking" journals. Taking my field of cognitive neuroscience and psychology as an example, the top-ranking journals are generally considered to be: Nature Neuroscience, Neuron, Proceedings of the National Academy of Sciences, Current Biology, Journal of Neuroscience, Psychological Science, and the Journal of Experimental Psychology group. Look at the CV of any top researcher in my area and you'll probably see papers published in this set of journals. But how many of them are OA? Not a single one.

The prestige of a journal doesn't arise by chance. Sometimes it evolves based on history and trust – many journals build a reputation and strong readership among scientists over many decades. In other cases, however, prestige is engineered (perniciously) through the maths of rejection. It's not unusual for high-ranking journals to reject 90% of the submissions received; and the more papers a journal rejects, the more prestigious it becomes. This isn't because the rejected papers are flawed but because the results are deemed unoriginal, boring, or difficult to hang a story on. Again, these markers are not what science should be, but they reflect what it has become.

So, you might say, why not follow Taylor's call to boycott such journals, instead sending everything to PLOS ONE, PeerJ, or one of the numerous OA alternatives? In this case the incentive leaves much to be desired: it amounts to sacrificing career opportunities (promotions, grants, research time) for the good of the cause, keeping in mind that doing so might also mean losing your job. Hurrah!

I say this not as some defender of the old guard, but as a proponent of OA and open data – as someone who frequently argues its virtues with more conservative colleagues. I would go even further and, like Björn Brembs and Marcus Munafò, call for the abolition of journals altogether. But we won't create this utopia by turning on each other, as Taylor does. We need to recognise that scientists are the victims of these incentives, not "immoral" perpetrators.

Source: Abridged from Chambers (2013).

7. Text C.

Hundreds of open access journals accept fake science paper

Hundreds of open access journals, including those published by industry giants Sage, Elsevier and Wolters Kluwer, have accepted a fake scientific paper in a sting operation that reveals the "contours of an emerging wild west in academic publishing".

The hoax, which was set up by John Bohannon, a science journalist at Harvard University, saw various versions of a bogus scientific paper being submitted to 304 open access journals worldwide over a period of 10 months.

The paper, which described a simple test of whether cancer cells grow more slowly in a test tube when treated with increasing concentrations of a molecule, had "fatal flaws" and used fabricated authors and universities with African-affiliated names, Bohannon revealed in Science magazine.

He wrote: "Any reviewer with more than a high-school knowledge of chemistry and the ability to understand a basic data plot should have spotted the paper's shortcomings immediately. Its experiments are so hopelessly flawed that the results are meaningless."

Bohannon, who wrote the paper, submitted around 10 articles per week to open access journals that use the 'gold' open access route, which requires the author to pay a fee if the paper is published.

The "wonder drug paper" as he calls it, was accepted by 157 of the journals and rejected by 98. Of the 255 versions that went through the entire editing process to either acceptance or rejection, 60% did not undergo peer review. Of the 106 journals that did conduct peer review, 70% accepted the paper.

Public Library of Science, PLOS ONE, was the only journal that called attention to the paper's potential ethical problems and consequently rejected it within 2 weeks. Meanwhile, 45% of Directory of Open Access Journals (DOAJ) publishers that completed the review process, accepted the paper, a statistic that DOAJ founder Lars Bjørnshauge, a library scientist at Lund University in Sweden, finds "hard to believe".

The hoax raises concerns about poor quality control and the 'gold' open access model. It also calls attention to the growing number of low-quality open access publishers, especially in the developing world. In his investigation, Bohannon came across 29 publishers which seemed to have derelict websites and disguised geographical locations.

Numbers of open access publishers are only increasing, according to Jeffrey Beall, a library scientist at the University of Colorado, Denver, who names and shames a list of "predatory" publishers on his website. He said that predatory open access publishers "exploded" last year and numbers continue to grow at a "rapid pace".

With increasing pressure on young researchers and PhD students to "publish or perish", it may be easy to get attracted by some of these low quality/predatory journals, said Eloy Rodrigues, an academic librarian and director of documentation services at the University of Minho in Portugal.

Source: Abridged from Shaw (2013).

8. Text D.

Open access: six myths to put to rest

1) *The only way to provide open access to peer-reviewed journal articles is to publish in open access journals*

Open access delivered by journals is called "gold" open access and open access delivered by repositories is called "green" open access. The myth asserts that all open access is gold , even for peer-reviewed articles. It has been false since the birth of open access, and yet it remains a tenacious and widespread misconception. Today most open access in medicine and biomedicine is gold, but in every other field it's mostly green.

The myth is due in part to the relative novelty of the green model. However, this excuse is wearing thin. Today the Registry of Open Access Repositories (ROAR) lists more than 250 subject-based open access repositories and more than 2,300 institutional open access repositories. The Cornell University arXiv for physics and mathematics is more than 20 years old – ancient in internet time. Several open access repositories, including arXiv, the Social Science Research Network (SSRN), and PubMed Central (PMC), dominate their respective subject fields.

Nearly every open access policy at a university or funding agency is a green policy, that is, a policy requiring deposit in an open access repository rather than submission to open access journals.

2) *All or most open access journals charge publication fees*

Charging publication fees (sometimes called author fees or article processing charges) is the best-known business model for open access journals, but it's far far from the most common. We've known since 2006 that most peer-reviewed open access journals charge no fees at all. Earlier this year the Directory of Open Access Journals (DOAJ) began providing its own tallies of open access journals that do and don't charge fees. As of this week, the DOAJ reports that more than two-thirds (67%) of all peer-reviewed open access journals charge no fees.

3) *Most author-side fees are paid by the authors themselves*

According to the comprehensive Study of Open Access Publishing (SOAP), when researchers publish in fee-based open access journals, the fees are paid by funders (59%) or by universities (24%). Only 12% of the time are they paid by authors out of pocket. This is a good reason to stop using the term "author fees" for publication fees, or the term "author pays" for the fee-based business model.

Scholars who make their work green open access rather than gold never pay a fee to do so. Even when they choose the gold route, only 33% of peer-reviewed open access journals charge author-side fees. It follows that only 4% of authors who publish in open access journals (12% of 33%) pay fees out of pocket.

4) *Publishing in a conventional journal closes the door on making the same work open access*
Most conventional publishers give standing permission for author-initiated green open access. Many of the others will give permission on request. For authors unsure of a publisher's position, check out the Sherpa RoMEO database of publisher policies, read the publishing contract, or ask an editor.

5) *Open access journals are intrinsically low in quality*
As early as 2004, Thomson Scientific found that in every field of the sciences "there was at least one open access title that ranked at or near the top of its field" in citation impact. The quality of a scholarly journal is a function of its authors, editors, and referees, not its business model or access policy. Even John Bohannon's recent sting of the execrable bottom tier of open access publishers vindicated the excellent top tier (though without showing how good the best open access journals can be), and the vindicated publishers are among the largest open access publishers publishing the most open access journals and articles.

6) *Open access mandates infringe academic freedom (to publish where you choose)* This is true for gold open access but not for green. Because only about one-third of peerreviewed journals are open access, requiring researchers to submit new work to open access journals would severely limit their freedom to submit work to the journals of their choice. By contrast, green open access is compatible with publishing in non-open access journals, which means that green open access mandates can respect author freedom to publish where they please. That is why literally all university open access mandates are green, not gold.

Source: Abridged from Suber (2013).

Unit 2.1: Different Genres of Academic Text

1. Read the text below and answer the question:

What is a genre? A genre is a word for a type of text. Each type, or "genre", shares a set of features: 1) It has a specific purpose 2) It has a specific audience (usually related to the purpose) 3) It has a specific form and style 4) It has a specific content We can further divide a certain genre of text into different "sub-genres". A newspaper, for example, is not a "genre" because it is not a type of text. The newspaper article might be described as a genre, but newspaper articles are very diverse (e.g. editorials, comment, sports reports) so we should divide them into sub-genres.

a) How many different types (sub-genres) of newspaper article can you think of?

2. Study the table and discuss with your partner the questions below:

Characteristics of Articles	
Type	**Description**
Research	An article reporting on the results of one or more studies or experiments, written by the person(s) who conducted the research. This is considered one type of primary source. Look in the title or abstract for words like *study, research, measure, subjects, data, effects, survey*, or *statistical* which might indicate original research.
Empirical	A type of research paper. The majority of research papers are empirical, that is to say they are based on original observations and/or experiments made by the researcher.
Case Study	Detailed account of clinically important cases of common and rare conditions. If this is just a set of "case notes" then it would not be considered a research paper. However, some research papers are case studies e.g. a study of the causes of the French Revolution might be written as a case study of how revolutions begin.
Review	Summarizes, synthesizes or criticizes the findings of other researchers' studies or experiments; attempts to identify trends or draw broader conclusions.
Meta-Analysis	A meta-analysis is a mathematical synthesis of the results of two or more primary studies that addressed the same hypothesis in the same way. It is a hybrid type of paper because it uses already-published data and carries out original mathematical analysis of that data. It may be considered a form of research paper.

Letters or Communications	Short descriptions of important latest study or research findings which are usually considered urgent for immediate publication.
Theoretical	Containing or referring to a set of abstract principles related to a specific field of knowledge; characteristically it does not contain original empirical research or present experimental data, although it is scholarly and may be considered a type of research paper. In some fields, such as mathematics, theoretical papers are very common.
Applied	Describes a technique, or a work flow, management or human resources issue. This may or may not be a scholarly research paper. Some researchers conduct "action research" in which they try out new techniques at work and report their findings. This type of paper counts as a research paper.
Professional communications, Book reviews, Letters to the Editor	Most scholarly journals publish articles that pertain to the workings of the profession but are not 'scholarly' in nature.

a) Which <u>five</u> types of articles above are sub-genres of the research paper genre?
b) What types of articles are most common in your area of research?

3. In pairs, discuss:

a) Have you ever written a professional communication or letter to a journal editor?
b) If so, why and what happened?
c) If not, why not?
d) What is the value of such letters, to the reader, and to the writer?
e) Have you ever written a book review?
f) If so, were you invited or did you put yourself forward?
g) If not, why not?
h) What is the value of book reviews, to the reader, to the book's author, and to the writer of the review?
i) Are you a journal editor?
j) If so, what does it involve?
k) If not, would you ever consider serving as one?
l) Which types of article do you find most useful to read?

4. In your own time:

a) Look at a recent volume of a journal in your field.
b) What types (genres and sub-genres) of text does it contain? E.g. theoretical research papers, review articles etc.
c) When you return to class, discuss what you have found out with your colleagues.

Unit 2.2: Review Papers

1. Use the words in the box to fill in the gaps in the text:

empirical	literature	coherent	section	continuous	researchers	
critique	sub-field	survey	bibliography	map	concise	original

A review paper or article is not a piece of (1)____________(primary) research. It does not involve looking directly at new evidence and it is based entirely on the work of other (2)________________.

A review paper is similar in some ways to a (3)______________ review and to an annotated bibliography. However, a review paper is an article in its own right, not just a (4)______________ of another article. A review paper will be lengthy and wide-ranging, unlike a literature review which is (5)________________ and focused on the research questions being investigated. A review paper is written in (6)_________________ prose and is a true article, unlike an annotated (7)__________________ which is just a collection of notes about publications.

A review paper is not organised in a typical format such as IMRaD, because it is not a piece of (8)_________________ research. A review paper will have an introduction, explaining the purpose of the review and defining the field to be covered. As the aim is to (9)______________ the literature in a given field, there is usually no specific research question for the paper to answer. It may have a 'methods' section explaining how the literature was selected, but this is not always the case. It will end with a discussion or conclusion, but without a research question to answer, the conclusion is likely to be bland.

There are three main ways to organise a review paper.

1) The first is the broad survey, described above, which tries to summarise a large number of publications in a particular field. Here the aim is to build up a mental (10)__________ of the research field for the reader, and to highlight the value of each publication reviewed. The commentary will be critical in that it will mention strengths and weaknesses of the research. The paper may be organised in different ways e.g. by types of theoretical approach, or by (11)________________ within the larger field. Survey articles are valuable teaching aids for students and are useful starting points for researchers.
2) A second format is a review which tries to synthesise a large number of research publications. Synthesis involves creating something new from different materials. Here the reviewer creates a new article which summarises all the knowledge in a particular field, based entirely on secondary sources. Unlike the survey, the secondary sources may not be discussed in detail, although they will be referenced. The aim of the synthesis is to draw up a (12)__________________ picture of the state of knowledge of a field, in an accessible form. This may be valuable after a period in which a lot of new research has been published.
3) A third format is a critical review. Here the reviewer groups together a large number of related articles in order to (13)____________________ them. For example, a reviewer may feel that a certain theoretical approach is flawed. A critical review might go through the relevant literature and point out its weaknesses. This type of review article is arguing a counter-thesis to the literature that it reviews. It is useful for stimulating academic debate.

2. Read the abstract and list of contents from the review article below. In pairs, discuss:

a) How much does the abstract differ from a typical scientific abstract?

b) Note and correct any errors in the English of the abstract.
c) Look at the list of contents. How is the article structured?
d) What sort of review article do you think this is: a survey, a synthesis, or a critical review?
e) Do you read review articles?
f) Why do you (not) find them useful?
g) Would you consider writing a review article?

Abstract Chromium, specifically hexavalent chromium is one of the most toxic pollutants that are released into soils by various anthropogenic activities. It has numerous adverse effects not only on plant system but also on beneficial soil microorganisms which are the indicators of soil fertility and health. Recent emergence of phytoremediation as an environmental friendly and economical approach to decontaminate the chromium stressed soils has received wider attention. But major drawback of this process is that it takes long time. Application of multifunctional plant-growth-promoting bacteria (PGPB) exhibiting chromium resistance and reducing traits when used as bioinoculants with phytoremediating plants, has resulted in a better plant growth and chromium remediating efficiency in a short time span. PGPB improve chromium uptake by modifying root architecture, secreting metal sequestering molecules in rhizosphere and alleviating chromium induced phytotoxicity. The purpose of this review is to highlight the plant-beneficial traits of PGPB to accelerate plant-growth and concurrently ameliorate phytoremediation of chromium contaminated soils.

Source: Ahemad (2015).

Contents

Source: Ahemad (2015).

Unit 2.3: Research Proposals (Prospectuses), Grant Proposals and Progress Reports

1. **Match the word or phrase to its definition:**

1) Research proposal / Prospectus 2) Grant Proposal 3) Progress Report	a) An application to a funding body for money to finance a research project or research programme. b) A formal document written to a funding body giving details of what has been achieved so far, how the money has been spent, and how far the project is from completion. c) An outline of a paper or project written before the work has begun, setting out what it will contain or achieve. It is typically written when seeking approval to do doctoral research.

2. Read the following text, then fill in the chart below with the words in the box:

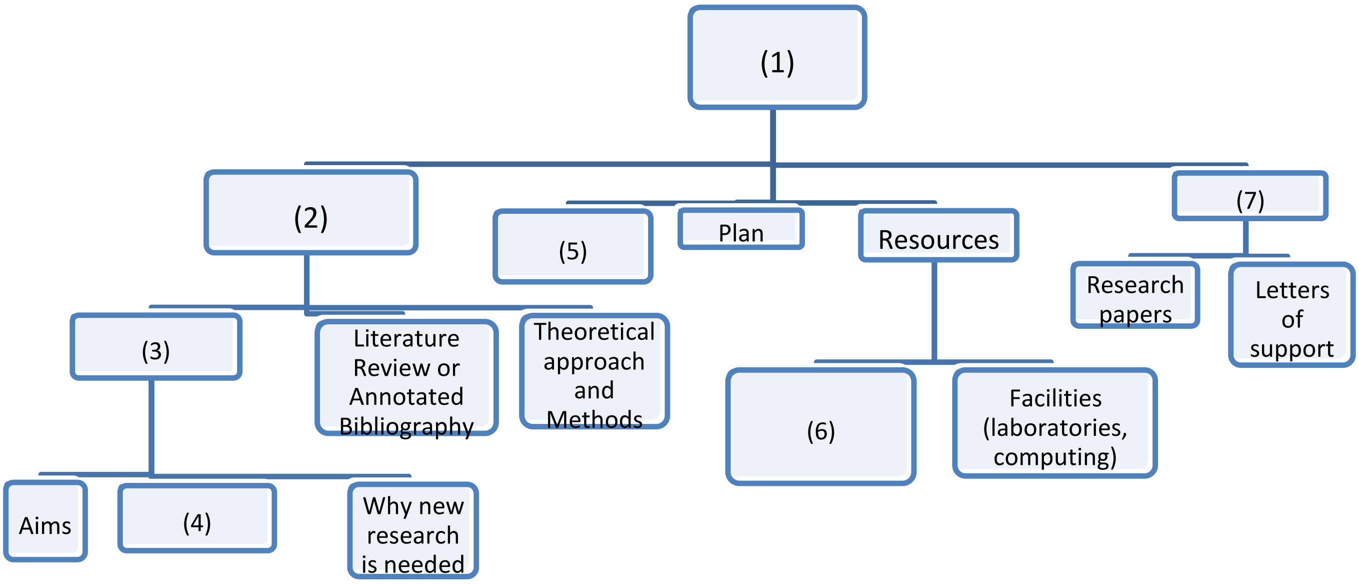
How should I write a research proposal?
How should I write a grant proposal?
The answer to both these questions is: begin by looking at any guidance given by the institution or body you are writing to. Usually funding bodies give detailed advice about what is required when submitting a proposal. <u>It is vital that you follow this advice, adhere to word limits, and use template documents if required to.</u>

How should I choose a funding body for a grant proposal?
You need to do some research, either on the internet or using a published guide. Many universities have specialist staff who can give advice on funding opportunities. Make sure that the objectives of your research are in line with the priorities of the funding body you choose.

What does a research proposal contain?
A research proposal usually consists of (a) an introduction (b) a literature review or annotated bibliography and (c) the theoretical approach and methods to be used. The introduction sets out the aims of the research, the background to the research, and why new research is needed.

What is the difference between a grant proposal and a research proposal?
A grant proposal is essentially a research proposal which is concerned with money. The grant proposal must include additional project details such as a budget (detailed and costed), a plan (with timescales), and the resources to be employed (staff and facilities). Additional supporting information, such as research papers and letters of support, may also be included in appendices.

Appendices	Grant Proposal	Staff (qualifications & experience)	Budget
Introduction	Background	Research Proposal	



3. **Read the following advice:**

A good grant proposal must persuade the funding body that: • The goal of the research is worthwhile • The goal of the research is relevant to the funding body's mission. The proposed research approach is sound. • The research team is capable of doing the proposed work. • The facilities available are adequate. • The amount of funding asked for is reasonable.

Source: Based on Day & Gastel (2011)

4. **Divide into two teams. One team will be researchers applying for a grant. The other team will be a funding body.**

a) The researchers should discuss what factors are likely to make their grant application successful, and what factors are likely to make it unsuccessful.
b) The funding body should discuss what factors they are looking for in applications that they want to fund, and what factors will make them likely to reject an application.
c) Each team should draw up a list of the relevant positive and negative factors, based on their discussion.
d) Next the two teams should meet and present their lists to one another.
e) The two teams should compare their lists: how closely do they match?
f) Discuss as a whole class what factors influence the success or failure of an application.
g) Make a record of the factors that you identify in f).

5. **Read the following advice on writing a grant proposal:**

•*Capture the reviewer's attention*
The people who review proposals are very busy. Make sure the answers to the following three questions are obvious:
i. What will we learn as the result of the proposed project that we do not know now?
ii. Why is it worth knowing? iii. How will we know that the conclusions are valid?
A good way to begin is either with your main research question, or your main hypothesis.

•*Aim for clarity*
Remember that research proposals are often reviewed by teams of people who may not all be experts in your field. Write in clear language, using technical terms only when appropriate.

•*Establish the context*
Summarise the state of existing knowledge about the topic and identify the gap that your research will fill in.

•*What's the pay-off?*
This does not necessarily mean a financial pay-off such as a patent, or a saleable new drug. The pay-off could be that the findings are theoretically significant, or resolve a key debate.

•*Use a fresh approach*
Originality interests reviewers. Puzzles, such as unresolved problems with a particular model, also interest reviewers. Be willing to blend different traditions to create a new approach.

•*Describe your methodology*
Make sure it all adds up i.e. that your methods can deliver your research objectives. Explain why your approach is best way to tackle the research problem.

•*Specify your objectives*
Make sure your research objectives are clearly related to your central research question. Make sure that your methods will allow you to provide clear evidence to justify your answer.

•*Final note*
Start early on a proposal. Draft, redraft and polish it. Ask colleagues for comments. Make sure it says what you want it to say as effectively as possible.

Source: Based on Pzreworski, A and Salomon, F 1995, *On the Art of Writing Proposals* (Social Science Research Council, 1995 rev., 1988).

6. Using the above text:

a) How closely does this advice match the list of factors which you drew up as a class?
b) The above advice was written for social scientists. Would it be any different if it were written for the hard sciences or the humanities?

7. In your own time:

a) Visit the website: http://homepages.inf.ed.ac.uk/bundy/how-tos/rsg-how-to-getfunding.html
b) Do further research on the internet about how to write a good grant proposal.
c) Try to identify funding bodies relevant to your area of research.

d) Build up a list of good pieces of advice.
e) Tell your colleagues what you have found out when you return to class.

8. Read the following advice:

A progress report is a document, written by the researcher(s), which informs the funding body how the project that it is funding is going. The progress report should cover such matters as (i) how far the research objectives have been met (ii) whether the research objectives will be met (iii) how much money has been spent and for what purposes (iv) how much progress has been made against the plan (v) whether the project will complete on time and to budget (vi) what deliverables (e.g. journal articles) have been produced (vii) what has been done to disseminate the research.

If the project has encountered problems, it is best to admit to these at an early stage. Make sure that you can explain the impact of the problems, and have a plan of action for dealing with them. The funding body may withhold further money if you cannot do so.

You should not normally change the research objectives of the project once it has been approved by the funding body. If you do wish to do so, ask the funder's permission. However, you will need a strong justification and it is not normally advisable.

The organisation of the progress report should be based on the original grant proposal. For example, in the original proposal there will be a section about the plan. The progress report should have a similar section reporting progress against that plan.

9. Explain the following terms in the text above:

a) Funding body
b) Deliverable
c) Disseminate
d) Withhold
e) Justification

10. Imagine that you are working on a research project of your choice in your field and that it is externally funded.

a) What sort of problems might you experience which might prevent you from making progress?
b) What ways can you think of to tackle these problems?
c) What would you say to the funding body if you were not making progress?
d) Write a short paragraph to the funding body based on your ideas for c) above.

Unit 3.1: Research Papers and Their Structures

1. Read the text below:

Research papers have a structure and consist of a number of parts with different functions. The structure of research papers is not standardised, but some structures are very common.

All research papers have an abstract, regardless of the structure used. The abstract is a standalone summary of what the research paper contains.

The main parts of a standard research paper are identified by the abbreviation IMRaD. This stands for Introduction, Methods (sometimes called Materials and Methods), Results and Discussion.

- The introduction sets out the aims of the paper, the background to the problem being investigated, often including a brief literature review, and explains the need for the new research.
- The methods section explains in detail how the research was conducted.
- The results section sets out what results were obtained.
- The discussion section interprets the results in terms of their explanation and significance.

The main variants of IMRaD are to have a separate literature review and a separate conclusion (ILMRaDC). The literature review sets out the state of existing research into the topic. The conclusion highlights the significance of the research and makes recommendations for future research and/or policy changes.

2. Match the section to its function:

1) Materials and methods	a) Sets out the state of existing research into the topic
2) Literature review	b) Sets out what results were obtained
3) Abstract	c) Interprets the results
4) Conclusion	d) Sets out the aims, background and need for the paper
5) Introduction	e) Highlights significance and makes recommendations
6) Results	f) A stand-alone summary of the contents
7) Discussion	g) How the research was conducted

3. In pairs, discuss:

a) Is the IMRaD structure used in your area of research?
b) If it is, what are its advantages?
c) If not, why not?

4. In pairs, discuss:

a) What do you think the following structure would mean: IMRMRMRD?
b) Why might such a structure be used? Is it better than IMRaD?
c) What do you think the following structure would mean: IRDaM?
d) Why might such a structure be used? Is it better than IMRaD?

5. Match the other parts of a scientific paper to their functions:

1) Acknowledgements 2) Keywords 3) Appendices 4) Author(s) 5) Glossary 6) Title 7) Reference List (Bibliography) 8) Nomenclature 9) Table of Contents	a) Optional, tells the reader where to find each section b) For giving thanks to helpful colleagues and to funding bodies c) Optional, explains the meaning of symbols used in the text that follows d) Optional, a type of dictionary for looking up key terms e) The name(s) of the person(s) who wrote the paper f) Words that identify the content of the paper g) Optional, additional information that does not need to be included in the main body of the text h) What the paper is about; the name of the paper i) A list of publications consulted in preparing the paper

6. Put the different parts of a research paper into the right order using the grid below:

Materials and methods Literature review Acknowledgements Keywords Appendices Author(s) Glossary Title Reference List (Bibliography)	Nomenclature Table of Contents Abstract Conclusion Introduction Results Discussion *(Note: more than one correct answer is possible for some items)*
1	9
2	10
3	11
4	12
5	13
6	14
7	15
8	16

7. Below are the abstract and the structure of two research papers, A and B.

a) Working in pairs, discuss:
b) Has the IMRaD structure been followed?
c) If not, why not?
d) What are the advantages and disadvantages of the IMRaD structure?
e) Should all research papers in all disciplines be written according to the same structure?

Paper A: Structure

- Title
- Authors
- Abstract
- Keywords
- Introduction ○ Materials and methods ○ Field experiment ○ Pot experiment
- Statistical analysis
- Results ○ Behavior of white lupin in field experiments ○ Performance of white lupin in pot trials
- Discussion
- Acknowledgements
- Appendix A: Supplementary material
- References

Source: Fumagalli et al. (2014).

Paper B: Structure

- Russia and Caucasia
- Enter the United States
- Tactics and objectives: “soft power” versus “hard power”.
- What about the Caucasians?
- Armenia: Russia’s Israel.
- Azerbaijan: betwixt and between
- Georgia: chronic crisis
- The August war and the new Post-Soviet world
- Concluding thoughts
- References

Source: Suny (2010).

Paper B: Abstract

Most of the plants employed to remove metals from contaminated soils are annuals and have a seed-to-seed life cycle of a few months, usually over spring and summer. Consequently, for most of the year, fields are not actively cleaned but are completely bare and subject to erosion by water and wind. The objective of this study was to evaluate the benefits of using *Lupinus albus* as a winter crop in a rotation sequence with a summer crop ideally selected for phytoextraction, such as industrial hemp. Lupin plants were grown in two alkaline soil plots (heavy metal-contaminated and uncontaminated) of approximately 400 m^2 each after the cultivation and harvest of industrial hemp. A smaller-scale parallel pot experiment was also performed to better understand the lupin behavior in increasing concentrations of Cd, Cu, Ni and Zn. White lupin grew well in alkaline conditions, covering the soil during the winter season. In few months plants were approximately 40–50 cm high in both control and contaminated plots. In fields where the bioavailable fraction of metals was low (less than 12%), plants showed a high tolerance to these contaminants. However, their growth was affected in some pot treatments in which the concentrations of assimilable Cu, Zn and Ni were higher, ranging from approximately 40–70% of the total concentrations. The lupin's ability to absorb heavy metals and translocate them to shoots was negligible with respect to the magnitude of contamination, suggesting that this plant is not suitable for extending the period of phytoextraction. However, it is entirely exploitable as green manure, avoiding the application of chemical amendments during phytoremediation. In addition, in polluted fields, white lupin cultivation increased the soil concentration of live bacteria and the bioavailable percentage of metals. On average live bacteria counts per gram of soil were $65 \times 10^6 \pm 18 \times 10^6$ and $99 \times 10^6 \pm 22*10^6$ before and after cultivation, respectively. The percentages of bioavailable Cu, Pb, Ni, Zn and Cr, which were 5.7 ± 0.7, 5.3 ± 1.7, 1.2 ± 0.1, 12 ± 1.5 and 0.1 ± 0.02%, respectively, before lupin growth, increased to 9.6 ± 1.6, 7 ± 2, 2 ± 0.3, 14 ± 1.5 and 0.1 ± 0.02% after lupin harvest.

On the whole, our results indicate that the winter cultivation of white lupin in sequence with a metal-accumulator summer crop can improve the recovery of soil quality during the phytoextraction period. It improves the safety of the area, limiting additional ecological and human health problems, and enhances soil health by avoiding the use of chemical amendments and by increasing the levels of viable microorganisms.

Source: Fumagalli et al. (2014).

Paper B: Abstract

My argument in this paper is that Caucasia has become an area of contention, like much of post-Soviet Eurasia, between the East and West, particularly between Russia's Caucasian policy, which revolves around its long-term interest in re-establishing its regional hegemony in the so-called Near Abroad, and the United States' grander ambition for global hegemony. The South Caucasus has provided the first opportunity for Russia to demonstrate its will to prevent the United States, NATO, and the European Community from penetrating the southern tier of the former USSR. Russia's move is not a program of imperial control, but rather a determined effort to contain or even roll back the influence of other powers, most importantly, the United States and NATO in the regions closest to Russia's borders. The "southern tier" of the former Soviet Union – Caucasia and Central Asia – contains the most vulnerable regions in which other powers might intervene, and it is here where Russia will test its new policies. Up until August 2008 it used primarily "soft power" vigorously to prevent other powers from increasing their influence in the region. In August it demonstrated it was prepared, when pushed, to use "hard power." The Russo–Georgian War was a watershed in East–West relations with a more assertive Russia willing to take on its more powerful competitors.

Source: Suny (2010).

8. Read the following text and answer the questions below:

Alternative Structures in Mathematics and the Humanities

The IMRaD format and its variants are widely used in the hard sciences and in some social sciences. Some writers, such as Wallwork (2011) believe that this structure can be adapted for other disciplines. However, in other disciplines, such as Mathematics, History and Politics, research paper structures tend to be very different. For details see Reiter (1995) and Corbett (2007). What these very different disciplines have in common is that they are nonexperimental, and they involve lengthy and complex multi-part arguments.

A History research paper will usually contain what is called a thesis statement in its introduction. This is a key claim that the paper will make. It is usually backed up by a number of supporting claims, and these usually provide the framework of the subsequent argument. Usually there will be a literature review (which may be separate, or included in the introduction), and some discussion of the theoretical approach and key archival sources (a little like a methods section). However, instead of "results" and "discussion", there is an argument consisting of stages.

If the thesis of a History paper can be labelled T, made up of 3 supporting claims (T1, T2 and T3), and evidence for a claim is E, and counter-evidence Ce, then a History paper might have the structure ITLM (T1ECe) (T2ECe) (T3ECe) C, where I=Introduction, L=Literature Review, M=Methods and C=Conclusion as normal. Each supporting claim is established by advancing the evidence and considering the counter-evidence, until the central thesis is established (or rejected). This structure is a little like some science paper structures where different sets of methods and results are presented in turn (e.g. ILMRMRMRaD).

In Mathematics there is also a complex multi-stage argument. One simple way to structure a Mathematics paper is Introduction – Theory – Analysis - Results & Discussion - Conclusion. However, Reiter (1995) advocates a more variable structure. He argues that the Introduction should give the background to the problem, introduce the nomenclature (what the symbols stand for) and introduce the problem in mathematical terms. After that the body of the paper is divided into the stages of an analytical argument in which each claim or proof supports the next stage of the argument, until the conclusion is reached.

a) Do you read papers in disciplines other than your own?
b) Do they differ very much in their structure?
c) Do you agree that different disciplines may need different structures for research papers?
d) Do all disciplines carry out research in the same way? Do you know of any alternative ways of carrying out research?

Unit 3.2: The Parts of a Paper and Their Tenses

1. Read the following advice and then answer the questions below.

Research papers are written using a mixture of tenses. The different parts of a paper tend to use different tenses, or different mixtures. The following guidelines explain which tenses are commonly used in which parts. The parts described here correspond to the IMRaD structure in its ILMRaDC variant (abstract plus Introduction, Literature review, Methods, Results, Discussion and Conclusion).

Abstract

- There are two approaches to use of tenses in the abstract: (1) match the tense to the tense used in the corresponding section of the paper; (2) use the present tense throughout. The former is more common.

1) The abstract normally uses a mixture of tenses, mainly present simple and past simple. An abstract is a kind of miniature version of the paper as a whole. Therefore the tenses used in the abstract match the tenses used in the other sections of the paper. For example, the abstract uses the present simple to describe the aims of the paper, just as the introduction uses the present simple to describe the aims. The abstract uses the past simple to describe an experiment that was carried out, just as the methods section does.
2) An alternative approach is to use the present simple for the whole of the abstract. This gives the abstract a sense of immediacy.

Introduction

- The introduction uses the present simple to describe the aims of the paper: what the problem is that is being addressed and why it is important.
- The introduction sometimes uses the present perfect simple or present perfect continuous when discussing the background to the problem e.g. "The problem of X has usually been ignored.", or "Interest in the possibility of Y has been increasing." The effect is to stress the relevance of this background to the present.
- If the literature review is included within the introduction, then the rules for a literature review (given below) apply to that part of the introduction.
- If the introduction highlights the results of the study, then the past simple is generally used: "By contrast, the present study found that..."
- If the introduction discusses the implications of the results, the present simple is used: "These results suggest that the theory of Z needs to be reconsidered."
- It is common for an introduction to end by giving a plan of the rest of the paper ('signposting'). This plan is usually described using the present simple (e.g. "Section 1 sets out…"). In mathematical papers, involving proof of a theorem, the future tense is sometimes used (e.g. "It will be demonstrated that…") but this is the exception, not the norm.

Literature Review

- The literature review uses three tenses: the past simple, the present simple, and the present perfect simple.
- The past simple is used to refer to research which took place in the past e.g. "Smith (1989) found that…"
- The past simple should be used where the author is dead e.g. "Keynes (1936) famously stated that…"

- The present simple is used to refer to recent research or older ideas which the author still supports e.g. “Jones (2010) shows that…” or “Green (1975) argues that…”
- The present perfect simple is used to refer to research which took place in the past but is of direct relevance to the present e.g. “Brown (1990) has demonstrated that, in the right conditions, X can be cultivated successfully.” [Note the switch from present perfect simple to present simple in this sentence.]
- Certain adverbs of time, or adverbial phrases, require that the present perfect should be used e.g. “<u>So far</u>, no evidence has been found that…” or “<u>Since 1989</u>, it has become increasingly clear that…”

Methods

- The methods section is usually written in the past simple. This is because the methods section is describing completed actions carried out in the past.
- If the methods used are compared with the methods used by other researchers, then the work of other researchers is described in the same way as in the literature review, using the same tenses.
- However, for many mathematical and computational papers involving proofs and demonstrations, the “methods” section is replaced by “analysis”. Here the present simple is used e.g. “Rearranging the terms of the equation gives the following relation between y and x” .

Results

- The results section is usually written in the past simple. This is because the results section is describing results which were obtained in the past.
- If the results are compared with the results of other researchers, then the work of other researchers is usually described in the past simple as well.
- However, for many mathematical and computational papers involving proofs and demonstrations, the results are given in the present tense. “This result holds good for all real values of x”.

Discussion

- The discussion section is written mainly in the present simple. This is because the author of the paper is discussing with the reader what the results mean <u>now</u>.
- If the results are compared with the results of other researchers, then the work of other researchers is described in the same way as in the literature review, using the same tenses.
- Modals of possibility and probability are often used e.g. “This could mean that…” “Future policies could therefore be altered so as to…” “These results may indicate…”

Conclusion

- The conclusion is written in a mixture of tenses, because it summarises and looks back at the paper, highlights its significance in the present, and sometimes speculates on the implications for the future.
- In looking back at the paper, the present perfect simple is used e.g. “This paper has demonstrated that…” “We have argued that…”

- The past simple is used to refer to the methods and results of the research that was carried out. “The plants grew faster in the alkaline soil…” “Germany did not plan to start a European war in 1914” “It was proved that…”

- The significance of the paper is discussed in the present simple, sometimes using modals of possibility and probability e.g. “These results open up a promising new avenue for research into X…” “In future these new methods may lead to…”
- If the results are compared with the results of other researchers, then the work of other researchers is described in the same way as in the literature review, using the same tenses e.g. “The case for German responsibility has been overstated in the past.”
- Implications for the future may be discussed in the present simple, using the future with ‘will’, or using modals of possibility e.g. “The challenge of meeting higher expectations in the face of rising costs remains significant.” “The development of health policy will reveal how much the Conservative Party has changed.” “The National Health Service could be facing a period of radical upheaval.”

2. **Decide whether the following statements are true or false:**
   a) In the conclusion, the past simple is used to look back at the paper.
   b) The literature review uses the past simple, present perfect simple, and present simple.
   c) The abstract is sometimes written entirely in the present simple.
   d) The discussion section is written mainly in the past simple.
   e) In mathematical papers giving proofs, “methods” are replaced by “analysis”, and the present simple is used.
   f) The past simple may not be used where the author is dead.
   g) Phrases like “so far” and “since 1980” require the use of the present simple.
   h) The results section is normally written in the past simple.
   i) If the literature review is included in the introduction, then it is written in the present simple.
   j) Modals of possibility are sometimes used in the discussion.
   k) The present perfect simple is used in the literature review for past research that is directly relevant to the present.
   l) The introduction uses the present continuous to describe the aims of the paper.

3. **Identify the tense in the following sentences:**
   a) Taxation is likely to rise in the near future.
   b) This level of toxicity could pose a threat to wildlife in the surrounding area.
   c) Friedman argued that monetary policy was the key to bringing inflation under control.
   d) The energy levels as measured were found to be consistent with the values indicated by previous research.
   e) Thompson’s conclusions have not been universally accepted.
   f) The direction of research has been changing in the face of the accumulation of adverse results.
   g) Thus increasing the dosage will not lead to faster recovery.
   h) It is too early to fully assess the impact of the French Revolution.

   Which section(s) do you think each of the above sentences might be taken from?

4. **Research task.**
   a) Find an article from a journal of your choice.
   b) Go through it and analyse which tenses are used in which sections.

c) Does the article follow the rules set out above/
d) Why do journal articles normally use a mixture of tenses?

Unit 3.3: Titles and Authors

1. General rules

The title of an article is important. It is used to attract the reader's attention and to indicate the content of the article. It is the first thing the reader will see, before even the abstract. The following is standard advice in choosing a title:

- Be specific and precise rather than general and vague. A title which is too short or too vague does not help the reader to decide whether the article is likely to be of interest.
- The title should include some key words which reflect the content of the research.
- A title is a phrase rather than a complete sentence.
- Use concise word order combinations e.g. 'economic growth' not 'growth of the economy'.
- Avoid abbreviations and chemical formulae e.g. International Monetary Fund not IMF, carbon monoxide not CO, as this will help your article to be found when people search on key words.
- Use precise scientific names for organisms and chemicals.
- Leave out unnecessary words.
- Some titles consist of two phrases, separated by a colon. The second phrase adds detail to the first phrase. The second phrase begins with a capital letter (unlike the rule for colons in a normal sentence) e.g.

  'European polities as hybrid regimes: The case of Putin's Russia'

2. Exceptions to the above rules

- There are some authors who do not follow this advice and some articles are published with titles which include stylistic flourishes such as short quotations or questions.
  The main aim is to arouse the interest of potential readers, e.g. ''A dissonant note on the Neva': Historical memory and city identity in Russia's second capital during the post-Stalin era'.
- Some authors prefer not to make their article title too precise and technical as it may put off potential readers. For example, 'Soviet nostalgia and Russian politics' is a more reader-friendly title than the more precise 'Survey evidence of the evolution of Russian public opinion in evaluating Communism'.

3. Improving titles

How can the following titles be improved? (Answers in section 5 below)

Case 1.

- ''A dissonant note on the Neva': Historical memory and city identity in Russia's second capital during the post-Stalin era'

 Case 2 ○ 'Water supply management programme supervision improvement'

4. Consider the following pairs of titles. Which do you think is the better choice and why?

1.
   A. ‘The measurement of levels of pollution in soil and H_2O at a Nigerian steel processing facility’
   B. ‘Gross alpha and beta radioactivity in surface soil and drinking water around a steel processing facility’

2.
   A. ‘The effects of public debt management on macroeconomic equilibrium: An analysis of the Brazilian economy’
   B. ‘An application of Kalman Filter estimators and state space models to bond yield curves in Brazil’

3.
   A. ‘‘Imperium et libertas’? Rethinking the radical critique of imperialism in the nineteenth century’
   B. ‘Discourses of empire and liberty in the critique of British imperialism, 1870-1914’

4.
   A. ‘A neoclassical explanation of economic growth in post-Communist Russia’
   B. ‘An explanation of the growth of the economy in Russia since 1991 using neoclassical economic theory’

5.
   A. ‘Caucasia has become an area of competition between East and West’
   B. ‘The pawn of great powers: The East–West competition for Caucasia’

6.
   A. ‘How much is a seat at the UNSC worth? Foreign aid and bribery at the UN’
   B. ‘How much is a seat at the Security Council worth? Foreign aid and bribery at the United Nations’

7.
   A. ‘The United Nations International Covenant on Civil and Political Rights’
   B. ‘The United Nations International Covenant on Civil and Political Rights: Does it make a difference in human rights behaviour?’

8.

A. ‘Not by Bread Alone: Subsistence Riots in Russia during World War I’
B. ‘Subsistence Riots in Russia during World War I’

9.
A. ‘Water quality: Prevention, identification and management of diffuse pollution’
B. ‘Water quality diffuse pollution prevention and identification management’

5. Improving titles (Answers to the questions set in section 3 above).

- **Case 1.**
    - Consider the title: ‘‘A dissonant note on the Neva’: Historical memory and city identity in Russia’s second capital during the post-Stalin era’.
    - The article is about the politics of architecture and conservation in St. Petersburg / Leningrad in the twentieth century. o The phrase ‘Russia’s second capital’ is elegant and avoids having to decide which name to use. o However, consider a reader searching for articles about the city. No reader is likely to enter this phrase into a search engine.
    - A more reader-friendly solution would be to replace ‘Russia’s second capital’ with ‘St.Petersburg’ and to include both ‘Leningrad’ and ‘St. Petersburg’ in the article’s searchable keywords.
- **Case 2**
    - Noun combinations are often used in titles as they are concise.
    - ‘Water management’ is more concise than ‘management of water’. o However, long noun combinations can be hard to read.
    - Consider the title: ‘Water supply management programme supervision improvement’.
    - The title is very concise but unclear. o Breaking the title up with prepositions and using a gerund (verb in –ing form) could improve it e.g. ‘Improving the supervision of water supply management programmes’.

6. Authors: read the following text and in pairs, discuss the questions below:

- Authors are people who contribute intellectually to the work that goes into the article e.g. by designing an experiment, or by writing parts of the paper.
- Carrying out tasks under direction e.g. as a technician does not amount to a claim to authorship.
- Where there is multiple authorship of a paper, the old convention was to list authors in order of academic seniority, the most senior first
- Nowadays it is normal practice to list the author who contributes most as the first (senior) author
- When an article has multiple authors, one author should be designated as the corresponding author, to handle queries from other researchers. S/he should inform the other authors about such queries.
- The authors’ contact details and institutional affiliations should be given.

a) Is it hard to decide when someone working on a project deserves credit as an author?
b) Have you ever come across authors falling out over who is the most senior?
c) Does it matter in which order the authors’ names are stated?

Unit 3.4: Keywords and Highlights

1. Read the text below:

Keywords matter because they allow potential readers to find your article. They form part of the metadata about an article. The metadata consists of the title, author name, abstract and keywords. The metadata is used for many online searches.

Keywords are <u>words</u> or <u>terms</u> i.e. short phrases which identify ideas, such as "economic growth". A short phrase should not be more than three words long. The exact format depends on the journal style guide. For example, "Keywords should be in lower case, separated by semi-colons, and end with a full stop." Example:

unemployment; public debt management; recessions; economic growth.

To identify keywords, consider what the article is about, and what words you might use if you were searching for a similar article. You should already have keywords in your article title and in your abstract.

When compiling a list of keywords, you should include all the keywords from the title and from the abstract, if the journal style guide allows you to, and if you have enough choice. The number of keywords is often strictly limited (e.g. to six).

Do not include abbreviations, do not use hyphens or brackets, and use plural not singular forms for countable nouns. Avoid unnecessary adjectives (e.g. economic growth NOT greater economic growth). Avoid prepositions and use noun combinations where possible (e.g. living standards NOT standard of living). However, prepositions are allowed if there is no good alternative (e.g. causes of war NOT war causes). Keywords are usually nouns, and consist of analytical terms rather than descriptions. Verbs usually occur as gerunds (e.g. spending not spend).

Highlights are a relatively new addition to academic publishing and are not used by every journal. They consist of a short number of bullet points that convey the key findings of the article.

2. Identify any errors in these lists of keywords:

a) Methane; CH_4; side-effects; greenhouse gases; global warming.

b) Unemployment; public debt management; recession; growth of the economy.

c) Militarism; (causes of) war; increased defence spending; arms race; being aggressive.

3. Now look back at the texts of the abstracts (A-D) in the previous section. Using the content of <u>each</u> abstract, prepare <u>four</u> lists of keywords.

4. **Now compare your answers from 3 with the actual lists of keywords for each abstract given below.**
    a) Do the actual lists obey all the rules given above?
    b) How does your list differ from the actual one?
    c) Which list do you think is more useful? Why?

Keywords for abstract A

Public debt management; Fiscal and monetary policies; Kalman Filter

Keywords for abstract B

Folk-linguistics, Rhetorical Argument, African American English, Language Attitudes

Keywords for abstract C

Gross alpha
Gross beta
Annual dose equivalent
Annual effective dose

Keywords for abstract D

White lupin
Heavy metals
Crop rotation
Soil phytoremediation
Phytoextraction
Green manure

5. Highlights for abstract B.

- The current study is a replication of Preston (1994).
- Participants felt that AAE was neither proper nor appropriate.
- Participants believed that vernacular varieties will be acquired by those living in a certain context.
- Participants did not consider the reasons why non-standard varieties might persist.

    a) Do you think the highlights above are useful and comprehensible?

Unit 3.5: Abstracts

1. Use the words in the box to fill in the gaps in the text below:

tables	structure	head	peer	conference	review	single paragraph
topic	key	summary	value	accurately	aims	

What is an abstract?

An abstract is a (1)__________ of a longer piece of work. There are three main classes of abstract, corresponding to different forms of academic text. These are: a thesis or dissertation abstract, a journal article abstract, and a conference paper abstract. The abstract is usually written after the thesis/dissertation/article/paper is complete, although conference abstracts are sometimes written in advance because of time pressures. It usually consists of a (2)_________ paragraph, although sometimes it is required to be lengthier (an 'extended abstract') or divided into sections, depending on the rules of the conference or journal concerned.

What is the purpose of an abstract?

Abstracts have more than one purpose.

- An abstract is printed at the (3)______ of a thesis/dissertation or journal article, or else in a (4)_______________ programme. The **first** purpose is to allow the reader to decide whether it is worth reading the whole thesis/dissertation/article, or whether it is worth attending the conference presentation.
- A **second** key purpose of an abstract is to highlight the (5)________ of the research to journal editors, (6)_____ reviewers and conference organisers. A journal article or conference paper may be rejected immediately if the abstract appears uninteresting or badly written.
- A **third** key purpose of journal article abstracts is to summarise the findings of the research (7)_________ and briefly, as the abstract may be published in an annual review.

What is the structure of a good abstract?

There are two types of abstract: **informative** and **indicative** (also called **descriptive**).

- **Informative** abstracts are used for all theses and dissertations, for most journal articles and for some conference papers. An informative abstract is a synopsis of the original text, and has the same (8)_________ as the original. Thus a synopsis of a thesis will summarise what each chapter of the thesis is about. The abstract of a journal article is also usually synoptic. Thus if the article is written in the IMRaD format common to many scientific papers, the abstract will also summarise the Introduction, Methods, Results and Discussion. These may form separate sections (a 'structured' abstract) but usually form a single (9)_________, depending on the style of the journal concerned. Humanities abstracts often take a similar form e.g. aims, background, theoretical approach and/or sources used, findings and conclusion.
- **Indicative** (or **descriptive**) abstracts are used for journal articles and conference papers which do not follow the structure of a standard scientific paper: for example, a (10)_______ article. In these cases the abstract states the subject matter, approach and content of the article without going into detail about findings or conclusions.

What is the content of a good informative abstract?

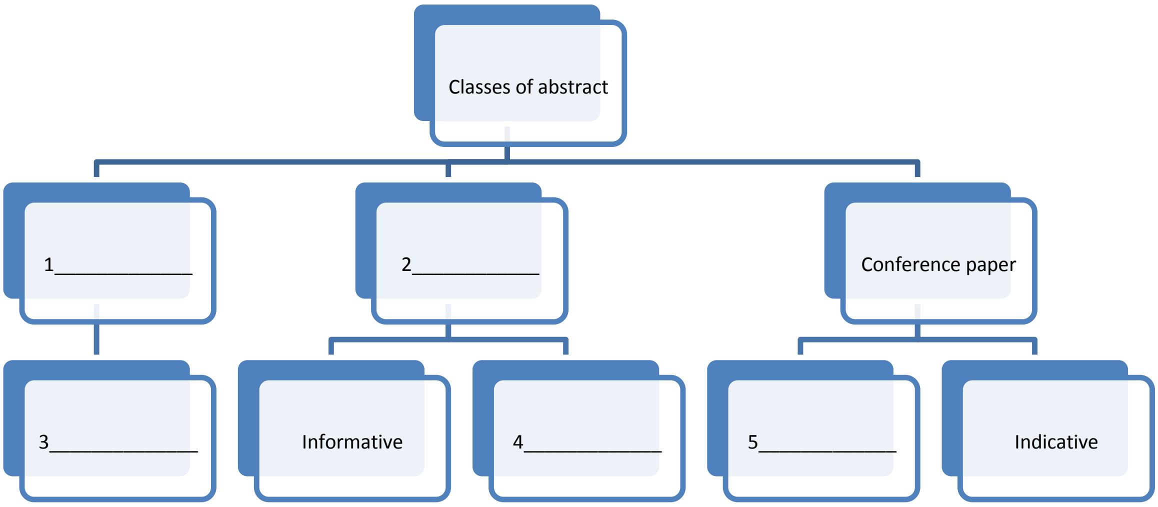
- The abstract should describe the (11)_______ of the study. What problem is being investigated, for what purpose?
- The abstract should state the background or context. Why is a new study needed given the state of existing knowledge?
- The abstract should state the method of investigation, highlighting anything that is new about the approach taken.
- The results or findings should be summarised accurately and fairly.
- The conclusions should also be summarised accurately, and the impact of the study should be highlighted.
- A good abstract makes sense on its own, without any need to read the article.

What are the do's and don'ts?

The first sentence should make the (12)______ clear. Do summarise your work accurately and fairly. Do not include references, (13)_______ or diagrams. Check the style guide (journal) or call for papers (conference) to see how many words you are allowed to use. Use clear, concise and precise language. Include any relevant (14)____ words relating to research in your academic field.

2. Read the text above. Then use the words in the box to fill in gaps 1-5 in the diagram:

Indicative	Informative	Informative	Thesis/dissertation	Journal article



3. Say whether the following statements about abstracts are True or False:

a) An indicative abstract gives less detailed information than an informative abstract.
b) Abstracts should include references.
c) An informative abstract is a synopsis of the original text.
d) An abstract is a shorter version of the introduction to an article.
e) You may never use more than 250 words.
f) Indicative abstracts may be used for review articles.
g) Abstracts have more than one purpose.
h) An abstract always consists of exactly one paragraph.
i) Abstracts should include tables and graphs, where relevant.

j) Abstracts should highlight the value or impact of the research.

4. Read the abstracts A-D below.

a) Which field of study does each abstract relate to?

The aim of this paper is to study the effects of public debt management on yield curve spreads in Brazil, in order to see possible impacts on the country's economic activity. State space models, together with Kalman Filter estimators, are used for the period ranging from June 2002 to February 2012. The results indicate that increases in the issuance of fixed rate linked bonds lead to increases on yield spreads and the longer the maturity, the longer the effect. The opposite occurs when there is an increased issuance of floating rate linked bonds. Therefore, a change in the structure of the Brazilian public debt is not neutral on the yield curve, with possible impacts on the country's macroeconomic balance.

Abstract A

Source: Da Silva et al (2014).

Abstract B

In 1994, Dennis Preston published "Content-Oriented Discourse Analysis and Folk Linguistics", in which he applied Deborah Schiffrin's argument structure analysis and Vantage theory to folk-linguistic data. The present study applies Schiffrin's analysis to similar folk-linguistic data, as both Preston's and my subjects discussed African American English. Preston found that his subjects used Oppositional Argument while the subjects in the present study used Rhetorical Argument. According to Schiffrin's analysis, arguments contain *positions*, *dispute*, and *support*. The resulting analysis compares the conclusions that can be drawn from each set of arguments, such as social and distributional facts about language variety, and facts about variety acquisition and use.

Source: Babcock (2015).

Abstract C

The mean gross alpha and beta activities in surface soil and drinkable water in the surrounding communities of a steel processing company, following a continuous exposure of workers and dwellers is determined using a low background Gas-less counting system with a solid state silicon PIPS detector for alpha and beta detection. The average activities for gross alpha and beta in soil ranged between 48.5 ± 15.8–64.0 ± 10.0Bq/kg and 411.5 ± 11.5–2710.0 ± 150.0Bq/kg respectively, whereas in water it ranged between 0.0064 ± 0.0001–0.0182 ± 0.0001 Bq/l and 0.046 ± 0.001–0.126 ± 0.001 Bq/l respectively. The average annual committed effective dose from intake of water was between 0.0304 mSv and 0.0678 mSv which is lower than the recommended reference level for ingested dose from drinkable water.

Source: Ogundare & Adekoya (2015).

Abstract D

Most of the plants employed to remove metals from contaminated soils are annuals and have a seed-to-seed life cycle of a few months, usually over spring and summer. Consequently, for most of the year, fields are not actively cleaned but are completely bare and subject to erosion by water and wind. The objective of this study was to evaluate the benefits of using *Lupinus albus* as a winter crop in a rotation sequence with a summer crop ideally selected for phytoextraction, such as industrial hemp. Lupin plants were grown in two alkaline soil plots (heavy metal-contaminated and uncontaminated) of approximately 400 m^2 each after the cultivation and harvest of industrial hemp. A smaller-scale parallel pot experiment was also performed to better understand the lupin behavior in increasing concentrations of Cd, Cu, Ni and Zn. White lupin grew well in alkaline conditions, covering the soil during the winter season. In few months plants were approximately 40–50 cm high in both control and contaminated plots. In fields where the bioavailable fraction of metals was low (less than 12%), plants showed a high tolerance to these contaminants. However, their growth was affected in some pot treatments in which the concentrations of assimilable Cu, Zn and Ni were higher, ranging from approximately 40–70% of the total concentrations. The lupin's ability to absorb heavy metals and translocate them to shoots was negligible with respect to the magnitude of contamination, suggesting that this plant is not suitable for extending the period of phytoextraction. However, it is entirely exploitable as green manure, avoiding the application of chemical amendments during phytoremediation. In addition, in polluted fields, white lupin cultivation increased the soil concentration of live bacteria and the bioavailable percentage of metals. On average live bacteria counts per gram of soil were $65 \times 10^6 \pm 18 \times 10^6$ and $99 \times 10^6 \pm 22{*}10^6$ before and after cultivation, respectively. The percentages of bioavailable Cu, Pb, Ni, Zn and Cr, which were 5.7 ± 0.7, 5.3 ± 1.7, 1.2 ± 0.1, 12 ± 1.5 and 0.1 ± 0.02%, respectively, before lupin growth, increased to 9.6 ± 1.6, 7 ± 2, 2 ± 0.3, 14 ± 1.5 and 0.1 ± 0.02% after lupin harvest.

On the whole, our results indicate that the winter cultivation of white lupin in sequence with a metal-accumulator summer crop can improve the recovery of soil quality during the phytoextraction period. It improves the safety of the area, limiting additional ecological and human health problems, and enhances soil health by avoiding the use of chemical amendments and by increasing the levels of viable microorganisms.

Source: Fumagalli et al (2015).

5. Mark abstracts A-D above, to answer the following questions:

a) Which sentences (if any) state the aims of the research?
b) Which sentences (if any) state the background to the research?
c) Which sentences (if any) describe the methods used?
d) Which sentences (if any) describe the findings or results?
e) Which sentences (if any) draw conclusions, or state the impact of the research?
f) How effective do you think each abstract is?
g) Which abstract is least informative, and how could it be improved?

6. Passive and active voice.

a) Using abstracts A-D, find examples of the passive voice.
b) In abstract A, what phrase is used instead of “We aim”?
c) In abstract A, what phrase is used instead of “We find”?
d) Do you prefer to use an impersonal subject (as in b & c) or “I” or “we”?

7. Noun combinations.

a) In abstracts A-D, identify any noun + noun combinations e.g. “soil quality”.
b) Are there any noun + noun + noun combinations?
c) What is the advantage to the writer of using noun combinations? (Hint: try rewriting the phrase.)
d) What is the disadvantage to the reader of long noun combinations?

7. Find the words in abstract D which match the following definitions:

a) Close to, but not exactly a particular number
b) Able to be absorbed by an organism
c) The process of getting back to a healthy state
d) Used, put to work
e) Carried out
f) Able to be used in a productive way
g) Too small to be of any importance
h) Lengthening

8. Using abstract D:

a) Explain the meaning of “respectively” near the end of the first paragraph.
b) Explain the meaning of “On the whole” at the start of the second paragraph.
c) If a cause A has an effect on an object B, is B affected or effected by A? Explain the difference between the two words.

9. Read abstract E below.

a) How different is it from abstracts A-D?
b) What type of abstract do you think it is?
c) This abstract was written for a conference paper. How might this explain b) above?

Abstract E

This paper provides a critical review of the commonly used computational fracture models in structural engineering applications including: (a) Rice and Tracey void growth model; (b) stress modified critical strain criterion; (c) Gurson-Tvergaard-Needleman model and (d) weakly coupled ductile fracture model. The performance of these models is evaluated using experimental data, and the merits and limitations of these models are provided. Finally, a new computational failure locus model is proposed and is used as a fracture criterion in ABAQUS® finite element software to predict the ductile fracture in ASTM A992 structural steels.

Source: Kiran & Khandelwal (2014).

10. Review of tenses.

a) Which tenses are used in abstract D? Why?
b) Which tenses are used in abstract E? Why?

11. Either:

a) Write an informative abstract of no more than 250 words for an article that you have already written **OR**
b) If you do not have an article ready, write an informative abstract for the article at this link: http://dx.doi.org/10.1016/j.mspro.2014.06.314 (This is the Kiran & Khandelwal paper referred to by abstract E).

12. With a partner:

a) Swap the abstracts you wrote in 10 and ask for suggestions for improvement.
b) Edit your abstract to improve it.
c) Ask for your tutor's comments on the improved version.

Unit 3.6: Introductions

1. Use the words in the box to fill in the gaps in the text below:

review	investigation	contains	forthcoming	needed	argument repetitive
literature	highlighting	background	method	about	

What is the purpose of an introduction?
The basic purpose of an introduction is to explain what the paper is (1)_______, why this new research is (2)_______________ and what the paper (3)________________.

What additional purposes does an introduction have?
However, a more ambitious purpose is that set out by Day & Gastel (2011 p.59): "to supply sufficient (4)_________________ information to allow the reader to understand and evaluate the results of the present study without needing to refer to previous publications on the topic." This implies that the introduction needs to review the (5)______________________ about the topic. If the literature (6)_______ is substantial then it may form a separate section, placed after the introduction. The author of the study should clearly highlight any separate, related research which has already been published by them, or which is (7)________________________.

What is the content of a good introduction?
Day & Gastel (2011 p.60) suggest five basic components:
1) The nature and scope of the problem;
2) A brief literature review (unless it is in a separate section);
3) The method of (8)___________, and (sometimes) reasons for choice of (9)____; 4) The main results; 5) The main conclusions.

However, some authors prefer not to include the main results and main conclusions in the introduction, to avoid being (10)__________________ (they have already been mentioned in the Abstract, and will be mentioned again in the Results and Conclusion sections). Day & Gastel argue that (11)______________ key results early on is a good thing as some readers might not read the whole paper.

How does the introduction relate to the rest of the paper?
The introduction helps the reader to know what to expect to find in the rest of the paper. This helps the reader to follow the (12)_________________. The introduction should give the reader a route map through the rest of the paper. This involves stating briefly what the other sections contain. This technique is known as 'signposting'.

2. Unscramble the words on the left and match them to the definitions on the right.

1) gtsnoipgnsi	a) What has been written about a topic
2) eopsc	b) Requiring skill and effort to achieve
3) mntoopnec	c) A part that combines with other parts to form something bigger
4) rreeailttu	d) The range or breadth of a subject
5) tbaousiim	e) A technique for giving the reader a route map

3. Read introduction text A below. It consists of seven paragraphs.

a) Which paragraphs explain the nature and scope of the problem?
b) How do the authors make the problem sound important?
c) Which paragraphs review the literature about the problem?
d) Which paragraphs give the historical background to the problem?

e) Which paragraphs discuss the authors' choice of method?

f) Which paragraphs discuss the authors' main results and conclusion?

g) Which paragraphs signpost the content of the rest of the paper?

Introduction text A

There is no doubt every country needs funding to foster economic growth and development. However, such funding needs to be sustainable and it has to be closely in line with the government's fiscal and monetary policies. That is why managing public debt is so crucial. According to Agell and Persson (1989) "*public debt management can be defined as the government's (including the central bank) choice regarding the composition of the outstanding stock of all the securities entering the liability side of its balance sheet*".

In order to use public debt as part of an economic policy strategy, authorities can change a country's debt portfolio and, as consequence, they can alter the demand for financial assets, which are not perfect substitutes. Therefore, an effective public debt management is able to modify interest rate yield spread premiums and opportunity costs in financial decision-making. As a result, investors are provided with better information with which they can plan their investments and create new portfolios that, consequently, may affect economic activity as a whole.

A great amount of economic literature has dealt with the research related to public debt management in a quite controversial way. For instance, the so-called Ricardian Equivalence theory points out that public debt is neutral with respect to consumption and, as result, with respect to macroeconomic dynamics, so long as agents allocate their savings in order to have a permanent income over their entire lifetimes. In other words, a larger public debt leads to more savings in the present period, because individuals expect to pay higher taxes in the future, which results in no effect in economic activity. On the other hand, Tobin (1963) argues that economic activity can be influenced by public debt management, as authorities can "*determine the size and the maturity structure of debt held by the private sector and, given imperfect substitutability of assets along the maturity spectrum, this will normally influence the shape of the yield curve*" (Filardo et al., 2012).

From an empirical point of view, public debt administration has been used as an economic policy instrument aiming at different ends, such as the conduct of monetary policy, the public deficit financing, or even to provide hedge to those who borrow in foreign currency. The Operation Twist, which began in 1961, is one of the most well-known actions aimed at affecting US economy through public debt management. In that case, the Federal Reserve tried to compensate its higher short-term interest rate by shortening the maturity of the bonds to achieve lower premiums at the long end of the yield curve. At that time, the focus was to avoid a deeper recession, improving the economy and bringing down unemployment rate. The management of public debt has also been used to fight the consequences of the recent global financial crisis. By means of the Quantitative Easing program and the revival of the Operation Twist, the US Fed provided last resort liquidity to the financial system, and also stimulated aggregate demand.

As for the Brazilian case, the country has been through several changes in its debt management since the mid 2000s. Three measures can be highlighted: (i) the reduction of securities linked to the Selic benchmark interest rate and to the exchange rate; (ii) the lengthening of the country's debt maturity; (iii) the issuance of external debt bonds denominated in Reais. The purpose of the Brazilian government is twofold. On the one hand, it is trying to reduce the exposure of its public debt to adverse circumstances coming from either exchange rate devaluations or sudden interest rate hikes. On the other hand, there has been a search for more efficient economic policies, which still suffer with problems from the hyperinflation period of the late 1980s.

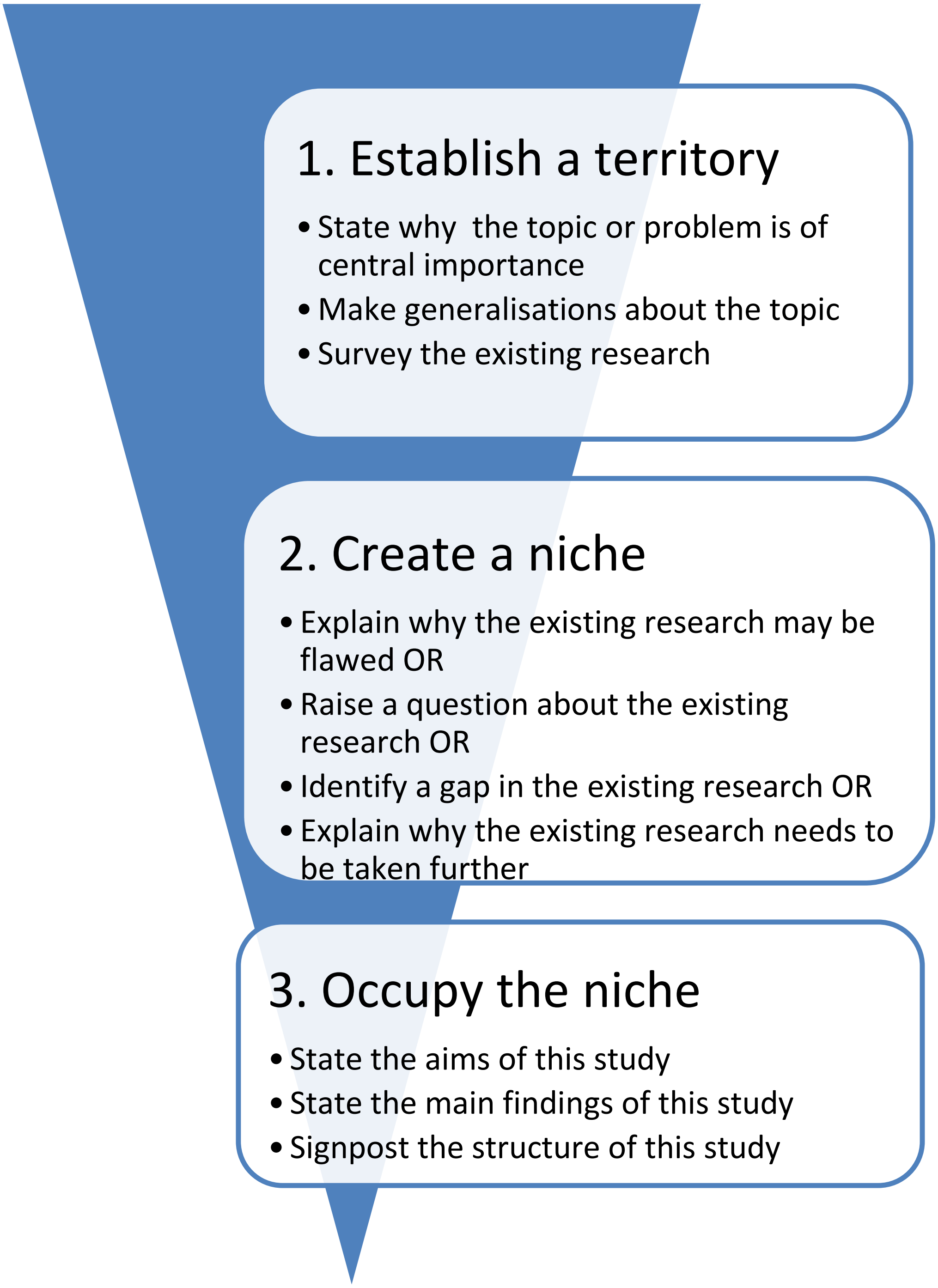
This paper analyses the effects of public debt management in Brazil on the country's yield spread premiums. In other words, we examine the responsive behavior of bondholders to changes in the composition of the public debt. It is this paper's assumption that changes in the gap between the yields on short-term and long-term bonds affect individual investment behavior and, as result, affect economic activity. In order to reach this objective, we make use of state space models, together with Kalman Filter estimators, for the period ranging from June 2002 to February 2012. The results indicate that increases in the issuance of fixed rate linked bonds lead to increases on yield spreads and the longer the maturity, the longer the effect. The opposite outcome occurs when there is an increased issuance of floating rate linked bonds. Therefore, a change in the structure of the Brazilian public debt is not neutral on the yield curve, with possible impacts on the country's macroeconomic balance.

Besides this introduction, this paper is organized as follows. The Section 2 shows the main debates about public debt management in Brazil, whilst the Section 3 describes the behavior of the Brazilian public debt from 1995 on. Section 4 describes the data series, the descriptive statistics and the econometric model. The Section 5 is about the unit root test results and the last two sections report the econometric results and the conclusions of the paper.

Source: da Silva et al (2014).

4. An alternative way of writing introductions: the CARS method.

The acronym CARS stands for Create A Research Space and was coined by the academic John Swales. The CARS method describes the 'moves' an author has to make to relate their chosen problem to the existing literature, to identify a gap in that literature (a "niche"), and to occupy that niche. Adrian Wallwork (2011) uses a similar 'funnel' approach, talking about moving from the general research background to the author's own particular study.



5. Match the action with the stage of the CARS process (1, 2, or 3).

Action	CARS stage (1, 2 or 3?)

State the aims of the study	
Survey the existing research	
Identify an unanswered question in the existing research	
Signpost the structure of the study	
State why the problem or topic is of central importance	
Explain why the existing research may be flawed	

6. **Read introduction text B below. It consists of three paragraphs.**
   a) Which paragraphs 'Occupy the niche'?
   b) Which paragraphs 'Establish the territory'?
   c) Which paragraphs 'Create a niche'?
   d) Which words show that the authors are critical of the existing literature?

7. **Using text B below, match the word/phrase on the left to its function on the right**

1) "primarily due to" (para 1 line 5) 2) "However" (para 1 line 11) 3) "Both in terms of… and of…." (para 1 lines 12-13) 4) "Most available papers describe lupin as…" (para 1 line 29) 5) "whereas" (para 2 line 7)	a) Begins a new sentence which contains information which contrasts with the information in the previous sentence. b) Makes a generalisation about what the existing research says. c) Goes into more detail about something (here industrial hemp's slowness) and explains that it is slow in two different ways. d) Usually found in the middle of a sentence, it links two clauses with contrasting information. e) Identifies the main cause of something.

8. **Work in pairs. Think of your own research. Explain to your partner where there is a "gap" in current research in your field, which needs to be investigated.**

9. **Does text B below follow all of Day & Gastel's advice (see section 1 above)?**

10. Introduction Text B

Phytoextraction may improve the quality of soil, mitigating the effects of metal contamination on soil resources. Nevertheless, although many studies have demonstrated the potential of this environmentally friendly technology, its employment in the field is still restricted, primarily due to the lack of truly effective plant species and the length of time required (Dickinson et al., 2009). In our previous studies (Citterio et al. 2003, 2005), we showed that industrial hemp (*Cannabis sativa* L.), a fast-growing and high-biomass-producing plant with multiple non-food uses, can accumulate consistent amounts of heavy metals, such as Cd and Ni, in its shoot. However, it is not a hyperaccumulator, and mainly for this reason, soil restoration with industrial hemp alone is too slow, both in terms of metal concentrations and of biological characteristics. One possibility for reducing the restoration time is the use of the entire year through crop rotation. *Lupinus albus* L. should represent a suitable crop to be cultivated in rotation with industrial hemp. In fact, the latter is a spring–summer crop, whereas some lupin varieties are winter season plants; they are cold tolerant and survive frosts up to −9° C. In addition, as a N_2-fixing legume, white lupin can also enhance soil fertility. Originating in the Mediterranean basin (Gladstones, 1998), it has been long used as a green manure crop in both vineyards and olive plantations in this area as well as in cotton cultivation in the southern USA. Currently, lupin is a minor crop in central Europe, while it is widely grown in the USA. It is also a traditional pulse crop cultivated in the Nile valley and in some parts of southeastern and southern Africa (Yeheyis et al., 2010). For its ability to grow in poor soils and in most areas of the world, lupin has already been considered as a potential candidate for soil phytoremediation; most available papers describe lupin as a suitable plant for phytostabilization, showing that it is not a hyperaccumulator for most of the metals tested (Reay and Waugh, 1981; Ximenez-Embun et al., 2002; Vazquez et al., 2006, 2009). However, lupin seems to accumulate consistent amounts of metals in root and shoot; this information is very important not only for evaluating phytoextraction but, particularly, in considering the use of lupin as a N_2-fixing organism for improving soil fertility by means of green manuring. This information is essential for choosing the best agricultural practice for ameliorating the general soil quality during the phytoremediation process.

Unfortunately, on the basis of the current literature, it is difficult to define the amount of metal absorbed and translocated to shoots by lupin, primarily because very few experiments studying a few metals have been performed directly in the field, and the extrapolation of data obtained from hydroponic systems is often unrealistic (Dickinson et al., 2009). Moreover, the available data from field experiments relates to acid soils (Vazquez et al., 2006), whereas many contaminated sites consist of neutral and alkaline substrates, on which white lupin may perform differently.

Introduction Text B (continued)

In this study, to determine the utility of growing *Lupinus albus* in crop rotation with industrial hemp or other annual summer crops, we grew white lupin in a heavy metal-contaminated site in the Po plain area (North Italy) after two consecutive cultivations (two successive years) of industrial hemp. The ability of white lupin to grow in metal-polluted and alkaline soils during winter season and its efficiency to absorb and accumulate heavy metals in root and shoot were evaluated. In addition, we considered the potential of this species as a cover crop, to improve soil fertility and general site quality, including the reduction of soil erosion. Finally, to better interpret our field results, we set up a pot experiment in laboratory-controlled conditions to assess the tolerance and accumulation capacity of white lupin with respect to single heavy metals in a neutral-alkaline substrate.

11. Refer back to text A above. Does text A above follow the CARS method a) completely b) partly or c) not at all?

12. Discuss with a partner: which introduction do you think is more effective, text A or text B? Why?

13. Review of tenses.

a) In text A, find examples of;
   a. The future with 'will'
   b. The present perfect simple (active)
   c. The present simple (active)
   d. The present simple (passive)
   e. The past simple (active)

b) In text B, find examples of:
   a. The present perfect simple (passive)
   b. A modal of possibility
   c. The present simple (active)
   d. The past simple (passive)
   e. The past simple (active)

14. Compound adjectives.

a) See how many compound adjectives (hyphenated pairs of words acting as an adjective) you can identify in text B. Example: "metal-contaminated".
b) Why do the authors use compound adjectives?

15. Other forms of introduction

Introductions in the humanities and social sciences are often different from introductions in the 'hard' sciences.

- Sometimes, in the humanities or social sciences, an introduction aims to grab the attention of the reader by highlighting what is interesting or dramatic about the topic.
- Secondly the introduction may set out a group of questions which the paper aims to answer.

- Thirdly, the introduction may outline the argument of the paper, where the paper takes the form of an extended analysis.

16. A five-paragraph example of a social science introduction is given in text C below.

a) Which paragraphs try to grab the attention of the reader?
b) Which paragraphs set out the historical background?
c) Which paragraphs set out questions which the paper aims to answer?
d) Which paragraphs outline the argument of the paper?

Introduction text C.

Caucasia has been for Russians and Westerners a place marked by the exotic and savage, majestic beauty and legendary heroes, attractive because of its differences, dangers, and distance from metropolitan centers. For centuries Russians travelling in Caucasia have depicted that mountainous land as a mysterious, even enchanted, place where the locals are savage and noble, the terrain majestic and wild, and the rivers always turbulent. Exoticizing Georgia, Armenia, and Azerbaijan even today has its dangerous effects in the occasional Russian demonization of Caucasians as bandits, terrorists, and cheats. Caucasia's most famous son, after all, was one of the greatest tyrants of the twentieth century, a global menace to Western values and its political and military hegemony – Joseph Stalin. But for Russians, and it turns out the West as well, the distances of the past have shrunk, and the allure of the exotic has largely been replaced by strategic concerns and the mundane politics of oil and gas. Caucasia has become a contested terrain, not only among the indigenous peoples, but also between its former imperial overlord, Russia, and ambitious new players, the United States, the European Union, and NATO. And an obscure conflict in a hitherto unknown place, South Ossetia, has led to a major rupture between the West and the revived "East."

For many in the Kremlin the White House appears to have an intense interest in Caucasia inexplicable except as a program of isolating and containing a resurgent Russia, while for many in the West Russia's heavy-handed interventions into Caucasian affairs smell like old-fashioned imperialism. The moves and countermoves of the two sides are discursively constructed (from the Russian side) as protecting besieged minorities from nationalist aggressors, and (from the Western side) as protecting brave little democracies or independent states from the primordial expansionism of a big northern neighbor. For political actors in Armenia, Azerbaijan, and Georgia, the pull from North and West presents both opportunities and dangers now that they have become involved in global politics.

Until August 7, 2008, Russia could be described as a defeated power, a shrunken giant, with all the attendant emotions of humiliation, resentment, anxiety, and even revenge. But in the last decade, particularly since Vladimir Putin ascended to the presidency and world oil prices enriched the Russian elite and state, despondency, discontent, and despair gave way to greater confidence and ambitions for a return to a place in the sun – if not globally, at least in the countries closer to home. So far that new confidence has not been dimmed with the fall in world oil prices or the onset of the global crisis of capitalism. With the Baltic countries and most of East Central Europe in NATO, Ukraine flirting with membership, and American troops in several Central Asian countries, one of the last contested frontiers for Moscow is the Caucasian, a borderland that for hundreds of years has proven to be the most volatile and unstable of Russia's peripheries. At the moment there are an estimated 250,000 Russian troops stationed in the North Caucasus, with 70,000 in Chechnya alone. And Russian presence south of the mountains has increased to over 7000 troops. Looking from the mountains southward Moscow saw an opportunity that here at least it might test whether its limited resources can make a difference in the regional balance of power. The Georgian president, Mikheil Saakashvili, gave the Kremlin its chance to change the nature of the post-Soviet world.

Let's ask first: what does Russia want in Caucasia? Are its ambitions legitimate and limited, or does it intend to re-establish hegemony, even empire, over the region it lost a decade and a half ago? Then, let's consider what the republics in South Caucasia want and how that might conform or conflict with Russian interests and aspirations. As we explore these questions, it is important to keep in mind that there are three different levels on which Russian–Caucasian relations operate. The most obvious are the local (Russians, Georgians, Abkhazians, Ossetians; Russia and Caucasia) and the global (the West versus Russia). But for Russia especially, there is a third level, the regional (Russia and the Near Abroad), and what Moscow does or does not do in Caucasia signals to other states in the former Soviet space what they might or might not do elsewhere.

My argument in this paper is that Russia's Caucasian policy revolves around its long-term interest in re-establishing its **regional hegemony** in the so-called Near Abroad, and the South Caucasus has provided the first opportunity to demonstrate its will. This is not a program of imperial control, however, but rather a determined effort to contain or even roll back the influence of other powers, most importantly, the United States and NATO in the regions closest to Russia's borders. The "southern tier" of the former Soviet Union – Caucasia and Central Asia – contains the most vulnerable regions in which other powers might intervene, and it is here where Russia will test its new policies. Up until August 2008 it used primarily "soft power" vigorously to prevent other powers from increasing their influence in the region. In August it demonstrated it was prepared, when pushed, to use "hard power."

Source: Suny (2010).

17. In pairs, discuss:

a) What discipline (field of study) is text C from?
b) How effective is text C as an introduction?

18. Nomenclature.

An unusual element of an introduction, sometimes used at the start of mathematical or computational papers, is a "nomenclature". This explains the meaning of symbolic terms, in order for the paper to be readable. It is placed immediately before the introduction. An example is given below:

Nomenclature

$\dot{R}$, R	rate of change of radius and radius of the dilating void
α, β	model parameters
l^*	characteristic length of the material
VGI_{cr}	critical void growth index
f_0, f_N, f_c, f_F	void volume fractions (initial, at nucleation, critical and failure)
q_1, q_2, q_3	void interaction parameters

Unit 3.7: Literature Reviews

1. Read the following advice:

1) A literature review summarises the existing state of knowledge about the topic of the article, based on the research literature.
2) A literature review is part of a journal article. Sometimes it is included within the Introduction, but otherwise it forms a section in its own right.
3) A literature review must be distinguished from a review article, which is a type of article dedicated to surveying all the research literature about a particular topic.
4) A literature review is also different from a book review, which is a short contribution to a journal describing the contents, strengths and weaknesses of a new publication.
5) A literature review needs to be organised, so that publications with similar themes or concerns are grouped together.
6) A literature review is critical of the existing literature. It acknowledges both the strengths and weaknesses of existing research. A key function of the literature review is to highlight gaps in the existing research. (Remember the idea of "creating a niche" from the discussion of Introductions.)
7) A literature review must always remain clearly relevant to the topic under discussion. Do not include references to publications simply to impress the reader with how much literature you have read.
8) A literature review must be up-to-date and wide-ranging. A review which only cites older works or only selects a narrow range of publications suggests that the author has not read widely enough. The author must be familiar with state-of-theart research.
9) By reading book reviews and articles in your favourite journals, you can help to keep yourself up to date with what the state of the art in your field is.
10) If possible, try to be international in your reading. Do not confine yourself to the work of just one country.
11) You can also locate relevant articles and books using search engines, but you need to think carefully about which keywords to use.
12) Another technique for building a literature review is to 'snowball' references (see the earlier unit on 'Reading for Writing').

2. Explain the following phrases from the text above:

a) 'a section in its own right' (point 2)
b) 'critical of the existing literature' (point 6)
c) 'highlight gaps in the existing research' (point 6)
d) 'state-of-the-art research' (point 8)

3. Rearrange the words to make correct sentences about literature reviews:

a) using/You/search/relevant books/engines./and articles/can/locate/
b) yourself/not/one/to/of/the/country./just/Do/confine/work
c) must/literature/up-to-date/be/review/A/wide-ranging./and
d) and weaknesses/research./acknowledges/strengths/It/both/of/existing/the

4. Read the literature review text below.

a) How does it signpost a transition to a second related group of publications, in para 3?
b) How does it signpost a transition to a third related group of publications, in para 7?

5. Literature review text

Garcia and Salomão (2006) emphasize the relationship between a country's national debt and the systemic risk premium required by investors. Due to the quality of the debt, its maturity and duration cannot increase regardless of factors that buyers consider as non-diversifiable risks. In this scenario, attempting to lengthen the average maturity of the outstanding debt would not be enough, as the voluntary demand for securities from the financial sector might not meet government's expectations. The author argues that a successful lengthening of public debt would only be possible if measures were taken to strengthen the domestic financial market. Among the measures, we could list the reduction of foreign currency-denominated debt, fiscal stability to reduce the Debt/GDP ratio, controlled inflation, as a means of helping the central bank lower interest rates, besides helping diminish the importance of floating rate securities in the total debt.

Levy (2006) called the attention to the actions taken by the Brazilian Treasury aiming at improving the country's debt profile. Two main measures were taken: (i) the issuance of exchange rate linked bonds was diminished; (ii) the investor base was diversified and expanded, attracting more domestic and mainly foreign bondholders, contributing to the improvement in systemic risk perception.

In another line of research, Arida et al. (2005), Lara Resende (2006) e Arida (2006), among others, called the attention to the risk of jurisdictional uncertainty in Brazil. Arida et al. (2005), for instance, argue that the inexistence of a local long-term domestic credit market could be seen as a market failure, which required some sort of governmental intervention, such as: restrictions to currency convertibility, artificial lengthening of public debt maturities, compulsory saving funds, and distorting taxation. According to the authors, these interventions worsen the negative impact of jurisdictional uncertainty on the short-term interest rate in Brazil. Therefore, a change in this scenario would open some room for a composition of debt with a better quality. Hence, improving the country's macroeconomic fundamentals would be crucial to lessening risk perception in Brazil.

Accordingly, Lara Resende (2006) explained that forced changes in the government's debt profile, with no alterations in risk perception, would not be beneficial to a proper debt management. This could be so because, in times of financial difficulties, investors interested in fixed rate bonds would require higher yields, as opposed to floating rate bondholders.

Pastore (1996, 2006) highlighted the ineffectiveness of monetary policy when floating rate linked bonds represent a significant share of public debt. The reason for that relates to the absence of the so-called wealth effect. When there are a lot of floating rate linked securities, interest rate variations do not lead to wealth loss and, thus, may not limit demand. According to the author, when investors construct their portfolios with a lot of sovereign debt, and when the government issues a lot of (high) interest-rate linked securities, the wealth effect may be an efficient monetary policy transmission channel. Nevertheless, this is not the case whenever public debt is mostly comprised of floating rate securities (Pastore, 1996, 2006). It is important to stress that, in general, the wealth effect has been losing relevance as a monetary policy channel, as stressed by the empirical evidences found by Ludvigson et al. (2002) and by Pires and Andrade (2009) for the Brazilian case.

Carneiro (2006) argues that floating rate linked bonds are closely related to higher interest rates in Brazil. The reason for that is the opportunity cost that floating rate securities have in relation to either inflation-rate or fixed rate bonds. As floating rate bonds are not influenced by price variations, when interest rates change, monetary policy becomes ineffective. Therefore, modifications in debt composition, resulted from a reduction in the issuance of floating rate securities, would make monetary policy more potent. Certainly, the financial system would become more susceptible to short-run changes in monetary policy, but on the other hand, interest rates would be lower, helping economic growth.

A third field of contribution concerns the construction of an ascending yield curve in the Brazilian financial system, which may provide more efficiency to monetary policy and allow the private sector to fight for a greater portion of the national savings (Kawall et al., 2004). Moraes (2006) points out that due to a period of great instability of the Brazilian economy, long-term asset pricing would still take into account a large variation of inflation, resulting in a very short-run long side of the yield curve. The author suggests that, as the Selic rate decreases, the Brazilian Treasury ought to issue fixed rate long-term bonds in order to flatten the term-structure of the interest rates.

Literature review text (continued):

Franco (2005) also emphasizes the effects of floating rate securities on the development of private long-term debt, and how public debt management could contribute to that. In order to reach this goal, the Brazilian money market would have to go through reforms, paying lower returns to the excess of liquidity and, at the same time, bringing some volatility to the Selic rate. As a result, investors would respond to this increased volatility migrating to medium and long maturity floating rate bonds. Besides, Franco (2005) advises that the Brazilian Central Bank should be able to set its benchmark interest rate for a longer period than one day.

Loyo (2006) suggests that the construction of a yield curve in the Brazilian financial system could become viable if the National Treasury issued long-term floating rate bonds, with higher returns, and in the meantime the Central Bank decreased the Selic rate, bringing more volatility to this rate. This procedure, says Loyo (2006), might help construct a term structure of the interest rate more compatible with those found in countries with well-developed financial systems. In these conditions, how could monetary policy help public debt management in order to create a positive yield curve in Brazil? Loyo (2006) argues that Franco's (2005) assumption, regarding an increase in the volatility of the Brazilian benchmark Selic interest rate, could raise some doubts once the decrease in demand for higher volatility securities might not mean an increase in other financial assets.[1] In this sense, Loyo (2006) says that a successful lengthening of public debt would involve a great deal of uncertainty reduction regarding monetary policy action. Therefore, the Brazilian Central Bank would have to target inflation as well as interest rate stability and, as soon as investors incorporated these variables to their risk assessment, the lengthening of debt maturity would become feasible. Notwithstanding, Loyo (2006) suggests that monetary policy should keep its benchmark interest rate constant around its neutral rate, and maintain small but persistent deviations, rather than large shocks. This would motivate agents to agree to lengthen their investments and improving the debt profile.

Mendonça and Silva (2008) analyze the relationship between monetary policy focused on a disinflationary process and fiscal equilibrium. The authors argue that when interest rates are high and public debt consists mainly of interest rate-linked bonds, the conduct of fiscal policy would be compromised, due to expensive financial costs to the public budget. Therefore, an effective public debt management would be a good strategy to lessen fiscal policy costs and an adequate tool to avoid deterioration in the Debt/GDP ratio.

Source: da Silva et al. (2014)

6. **Review of tenses**
   a) Which tenses are used in the text above?
   b) Which of the three tenses often used in literature reviews is NOT used above?

7. **Verbs for literature reviews**

The text mentions many authors, and uses different active verbs or phrasal verbs for their contributions,

e.g. Garcia and Salamão (2006) <u>emphasize</u>…

e.g. Levy (2006) <u>called attention to</u>… [*Note that "called the attention to" is incorrect*]

   a) Complete the table with the other 8 active verbs or phrasal verbs used in this way:

emphasize call attention to	

   b) Look at the phrasing of the reference to Kawall et al. (2004) in paragraph 7. How does this differ from the format in the table above?
   c) Look at the phrasing of the reference to Ludvigson et al. (2002) in paragraph 5. How does this differ from the format in the table above?

8. **In pairs, discuss whether every good research article needs a good literature review.**

Unit 3.8: Methods (Materials and Methods, Methodology)

1. Read the following text:

The Methods section (sometimes called Materials and Methods, sometimes called Methodology) is the section in which you describe how you carried out your research.

How should it be organised?
There is no set way to organise it. A good way is to begin by explaining the experimental design and how it relates to the hypothesis being investigated.

Most methods sections involve three common key activities: selection, collection and analysis. They can be described in that order (which is also the usual chronological order).

- Selection involves choosing the types of materials, organisms or human subjects to be studied and how they are to be tested (experimental design), and deciding which individuals are to be studied (sampling design).
- Collection involves gathering data on the individuals being studied e.g. by questionnaire, periodic observation.
- Analysis involves looking for relationships in the data gathered, perhaps by using specialist software. Note that you do not discuss the <u>results</u> of the analysis in this section.

The three key questions you need to answer are: 1)
What did you do?
Describe in a logical order (usually chronological) exactly how you conducted the research. 2)
Why did you do it?
Explain why you made the research decisions that you did. 3)
How did you do it?
It is important to give sufficient detail to the reader for them to be able to replicate the experiment if necessary. For materials give the exact specification. For methods which have been published elsewhere, give the references.

What about all the detail which can overwhelm the reader?

i. If you have very detailed information which is not immediately required by the reader, you can separate it out and include it in an appendix. For example, the text of a survey questionnaire is best handled this way. The appendix may not even appear in the published paper, but simply be made accessible as a web link using a Digital Object Identifier.

ii. A second technique for giving very detailed explanations is to use a figure, such as a map or diagram. This can save many words and will often be clearer. If you do include a figure, you should comment on it in your text. This helps the reader to understand its relevance and encourages them to look at it. The comments should highlight any key features of the figure which might not be immediately obvious.

iii. A third technique is to split the methods section down into subsections. This will make it easier to follow the research process.

iv. A fourth technique is to use numbered lists and bullet points. This is only recommended if it is allowed by the journal's style guide.

2. **Using the above text, answer the following questions:**
   a) What do the following words/phrases mean? Hypothesis, periodic, chronological, replicate, Digital Object Identifier.
   b) Think of a piece of research that you have carried out. Jot down some brief notes about what you did.
   c) Now try to explain to your partner how you carried out your research.
   d) Can you explain to your partner why you did the research that way?

3. **Study the following Methods section (including the map, referred to as "Figure 1" in the text).**
   a) How is it organised (divided into sections)?
   b) What do the following terms in section 2.2 mean? Randomly, composite, comprising, respectively.
   c) How effective is the use of the figure (figure 1, the map) and the commentary about it?
   d) How effective is this example of a Methods section?

2. Materials and methods

An initial survey to ascertain the level of radiation was carried out at the premises of Delta Steel Company using a portable alarm dose meter calibrated with an x-ray machine at the SSDL of the National Institute of Radiation Protection & Research, University of Ibadan, Nigeria.

2.1. *Sample area*

Three communities were sampled in the assessment of the extent of radiation exposure due to the discharges from Delta Steel Company. These are Ovwian, Aladja and Delta Steel Township. Ovwian is situated to the immediate right of the steel company and has its centre about 3.77 km from the steel company. Aladja is situated to the immediate left of the company with its centre at about 1.68 km from the steel company. The Delta Steel township is a settlement area provided for the staff of the company and is located from about 5 km away from the company. All three locations are situated in Udu local government area of Delta State. A fourth location which served as a control is Warri, situated to the north of Delta Steel Company and is about 5 km from the company. The map of the locations is shown in Fig. 1.

2.2. *Sample collections*

Several farmlands and gardens were visited where soil samples were randomly collected. A total of 20 soil samples comprising 3samples from Ovwian, 6 samples from Aladja, 8 samples from Steel township and 3 samples from Warri, were collected from which composite samples were formed. Unlike Aladja and Steel Township communities where the farmlands are located at different places, Ovwian and Warri farmlands are situated on the outskirts of the communities on vast lands. Drinkable water samples comprising 5, 6, 7 and 2 samples from Ovwian, Aladja, Delta Steel township and Warri respectively, were also randomly selected majorly from boreholes and a few dug wells within the communities where the people resided.

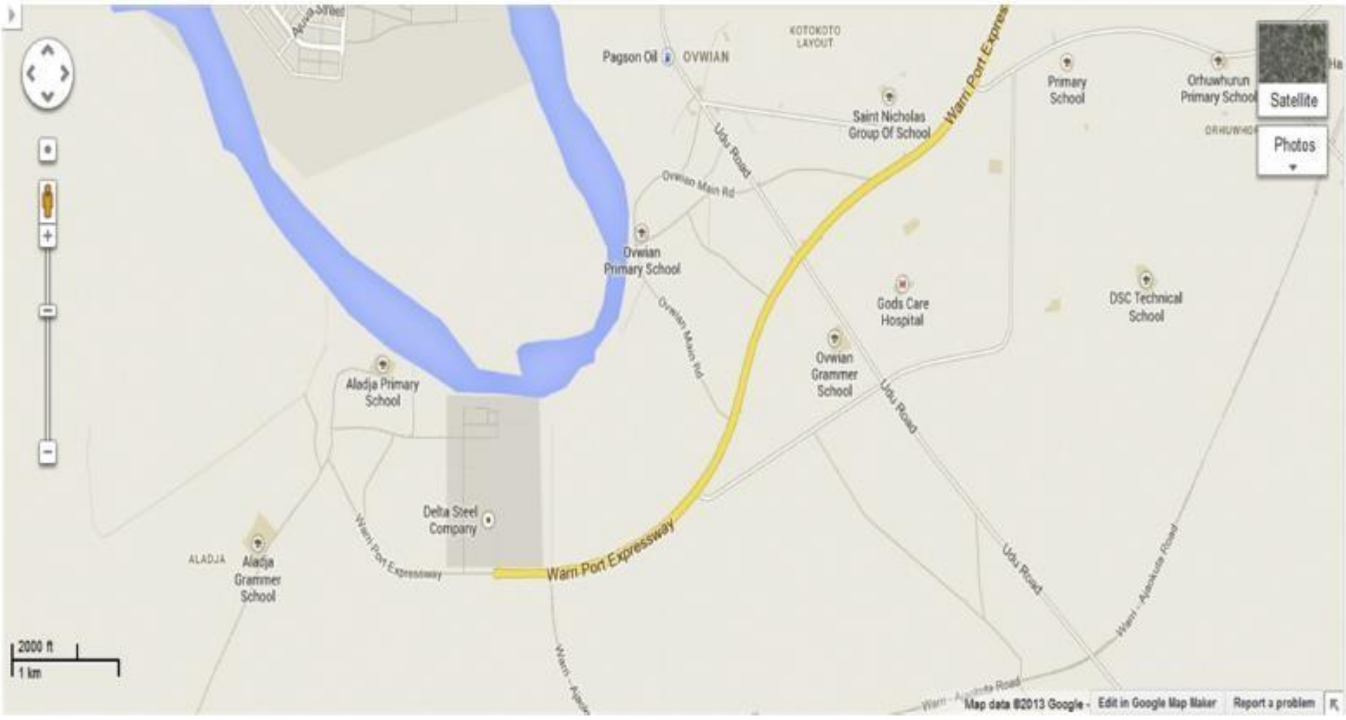


Fig. 1

2.3. *Sample preparation*

Three hundred millilitres (300 ml) of each water sample was acidified with 1 ml of concentrated HNO_3 and evaporated to near dryness on a hot plate in a fume hood. The residue in the beaker was rinsed with 1M HNO_3 and evaporated again to near dryness. The residue was dissolved in minimum amount 1M HNO_3 and transferred into a weighed 25 mm stainless steel planchet. The planchet with its content was heated until all moisture has evaporated. It was then stored in a desiccator and allowed to cool and prevented from absorbing moisture.

The soil samples were spread on clean stainless steel trays and air dried for 72 h. Initial sieving of soil was made and the pebbles, grasses and any residual roots, leaves and branches of plants removed. After the initial sieving the samples were dried in an electric oven at a temperature of <80 °C overnight until the moisture of the soil could not be further removed. The samples were afterwards transferred into planchet, weighed and set aside for analysis.

2.4. *Sample analysis*

The prepared samples (both water and soil) were counted to determine alpha and beta activity concentration using the low background Gas-less Automatic Alpha/Beta counting system (Canberra iMatic™) calibrated with alpha (^{241}Am) and beta (^{90}Sr) standards. The system uses a solid state silicon (Passivated implanted Planar Silicon, PIPS) detector for alpha and beta detection. The samples were counted for 200 min. The alpha and beta efficiencies were determined to be 36.39 ± 2.1% and 36.61 ± 2.2% respectively. The background readings of the detector for alpha and beta activity concentrations were 0.04 ± 0.01 and 0.22 ± 0.03 cpm. All the measurements were carried out at the Ghana Atomic Energy Commission, Accra.

Source: Ogundare & Adekoya (2015).

4. Study the Methods section below.

a) How does it differ from the previous example?

b) How effective is it? (think about what the Methods section is for)

2.1 Methods

The researcher's role in this conversation differs from Preston's fieldworker in that I tried to elicit specific features from the participants, while the participants themselves were not as interested in talking about features as they were in talking about social and educational issues. There was no overt dispute going on, and all participants seemed to agree and engaged in constructing meaning together rather than refuting and conceding points. Unlike Preston's (1994) participants, these participants did not dispute that a Black variety of English exists. But they had a difficult time defining it and giving examples of what they perceived. The researcher cajoled them, trying to get her information (*i.e.*, specifics, features), but the folk persisted in their analysis of education or of speech mirroring education.

The data were collected as part of a focus-group conversation functioning as a folk-linguistic interview. The conversation took place in a private home in Marblehead, Massachusetts during a family gathering in November, 2001. Participants were given broad linguistics topics to discuss, and the interviewer attempted minimal involvement, although participants were prompted for specific examples and to reflect on their feelings and attitudes toward the issues discussed. The conversation touched on a broad range of topics from regionalism to the speech of politicians, but the focus here is on comments on AAE, as that topic was also the focus of Preston's (1994) analysis. Unlike in Preston's research, this topic was not initiated by the researcher, but by the participants themselves. Another difference from Preston's research design is that the researcher is a native English speaker and the participants are all White, rather than African American participants and a non-native interviewer, as in Preston's research.

The analysis of data followed Preston's (1994) scheme of analysis described above. I also used several of Schiffrin's (1985) categories, such as use of coordinating and subordinating conjunctions, intensifiers, words that imply opposites, and the personal beliefs of the speaker. Schiffrin presented these features as indicators of the discourse properties of rhetorical argument, so as I analyzed the data I looked for such things as the location of the position at boundary markers of the discourse, semantic indicators, discourse markers, devices of orientation, and representations of belief. I present the monologues in ethnopoetic notation (Tedlock, 1983) for ease of interpretation.

2.1.1 *Participants*

B, the researcher, age 33, doctoral student in Rhetoric and Linguistics, daughter of A and D.

S, female, age 65, retired, BA degree. Cousin of A. Lives in Rye, New Hampshire, with her husband H.

H, male, age 65-70, retired executive, BA degree, S's husband.

D, male, age 57, works in a warehouse as a "traffic manager", graduate student in English, A's husband. Had coursework in linguistics as an undergrad. Massachusetts native, although born and partially educated in Florida.

A, female, age 55, hospital administrator, MA degree, lives in own house in Marblehead, Massachusetts, with husband, identifies as a "Marbleheader".

E, female, age 49, clerical worker in a health care company, lives in Ipswich, Massachusetts, with husband (not present at interview) and two boys, identifies as a "Lynner"[1]. Niece of A and D.

Unit 3.9: Results

1. **Read the following sentences. Decide whether the following statements about the Results section are true or false.**

No.	**Statement**	**True or False**
1	The results should be related in the text to the experiment that gave rise to them.	
2	Supplementary material such as results can be put into an appendix instead of into the results section.	
3	Negative results should not be presented.	
4	Clarity is vital in presenting the results.	
5	A determination, in a research paper, means “finding something out” e.g. establishing the value of a variable which was previously unknown.	
6	The contents of a graph or table should be fully described in the text.	
7	Full details of the experiments should be restated.	
8	It is better to present representative data such as averages, rather than repetitive data such as a list of raw data.	
9	You should include any important details omitted from the introduction and methods sections.	
10	Repetitive determinations are best presented in the form of graphs and tables rather than in the text.	
11	Results which contradict the main hypothesis should not be presented.	
12	Single determinations are best presented in the text.	
13	Unexpected results should be highlighted.	
14	The results should mention both what has been found and what has not been found.	
15	Determination refers to whether the reader has the will to make it to the end of the paper.	
16	Any tables, figures or graphs presented should be referred to in the text so that the reader knows why they have been presented.	

Source: Based on Day & Gastel (2011) and Wallwork (2011).

2. **In pairs discuss:**
   a) Do you agree with all of the above advice?
   b) Is there any other advice which you would add?

3. **Read the following excerpt from a Results section. In pairs discuss:**
   a) Why is a table used?
   b) Why is data from other researchers included in the table?

c) How fully does the text describe the data in the table? Explain why.
d) How effective is the combination of table and text in presenting the results concerned?

3. Results and discussions

The measured mean values for the equivalent dose rates at different points within the premises of the steel company are shown in Table 1. The average dose equivalent rate was highest at the dumpsite (1.08×10^{-2} mSv/hr) and least at the main gate (4.0×10^{-5} mSv/hr). The values (except at the dumpsite) compare favourably with those measured at Ughelli, Delta State (Avwiri, Enyinna, & Agbalagba, 2007) and Ikot Akpaden, Uyo (Esen, Ituen, Etuk, & Nwokolo, 2013). The high value recorded at the dump site goes to confirm the unpublished account of an elevated activity of radionuclides in that area.

Table 1 – In-situ measurements of mean equivalent dose rate at Delta Steel Company.

Location	Mean equivalent dose rate (mSv/hr)
Main Gate	4.0×10^{-5}
Canteen	8.5×10^{-5}
Milling site	1.1×10^{-4}
Inner gate	6.5×10^{-5}
Waste disposal Truck	2.0×10^{-4}
Dump site	1.08×10^{-2}
Ughelli, Delta State (Avwiri, Enyinna & Agbalagba 2007)	1.48×10^{-4}
Ikot Akpaden, Uyo (Esen et al., 2013)	1.65×10^{-4}

Source: Ogundare & Adekoya (2015).

4. Read the following excerpt from a Results section. In pairs discuss:

a) How does the presentation of these results differ from the previous example?
b) Why do you think the researcher has chosen this method?
c) How effective do you think this method of presenting the results is?

3.1 Results

3.1.1 *First Excerpt*

I begin my analysis with H's first speech. In order to view H's separate propositions clearly, I break it down to content lines in a somewhat modified ethnopoetic notation (Tedlock 1983). Ethnopoetic notation allows the researcher to group words into meaningful chunks that can be more easily analyzed, in this case, using Schiffrin's argument framework. I have eliminated backchannels and attempts to take the floor by D.

1H: I believe there's another very interesting marker.

Ah, when you think of the Black community, um,

if you, ah, have (3s) a Black businessman who speaks the way

that we would expect a business person,

educated business person to speak,

4 versus those who are less (2s)

I wouldn't say less educated—

but the way their speech patterns were taught to them,

and it, it then becomes what we are accustomed to hearing from that part of society.

Source: Babcock (2015).

Unit 3.10: Discussions and Conclusions

1. **Read the following sentences. Decide whether the following statements about the Discussions section are true or false.**

No.	Statement	True or False
1	The discussions section should state whether the results support your hypothesis or not (if you did have a hypothesis to test).	
2	The discussions section should recapitulate the results.	
3	You should give your interpretation of the results.	

4	It is important to play down any results which conflict with your hypothesis (if you have a hypothesis to test).	
5	You should highlight both correlations and lack of correlation between variables.	
6	You should leave out discussion of unclear results.	
7	The discussion should highlight the ways in which the results agree with existing research.	
8	The discussion should highlight the ways in which the results contrast with existing research.	
9	You should not state your conclusions, but leave it to the reader to draw their own conclusions.	
10	You should acknowledge the limitations of your study, and any potential flaws.	
11	The evidence for each conclusion should be briefly summarised.	
12	The discussion should highlight any new understanding arising from the research i.e. its academic significance.	
13	The "external validity" of the results means whether the results can stand up to external scrutiny.	
14	It is not appropriate to discuss whether the results have any implications for public policy, applications in other fields, or to make recommendations.	
15	It is appropriate to suggest possible directions for future research.	

Source: Based on Day & Gastel (2011) and Wallwork (2011).

2. **The following five sentences reveal the way to organise medical research discussions. Rearrange the words and then put the sentences into the right order.**
   a) Compare these/any differences/weaknesses/highlighting/with those of/in the/strengths and/other studies,/results.
   b) findings./the/principal/State
   c) and implications/study,/of the/giving/policymakers./clinicians and/explanations/Highlight the meaning/possible/for the benefit of
   d) State/weaknesses/study./the/and/strengths/of/the
   e) and suggest/unanswered/Note/research./questions/future/the direction of

1		2		3		4		5	

Source: Based on Wallwork (2011).

3. **Read the following discussion section and answer these questions:**
   a) Which tenses are used and why?
   b) Where in the text are the results compared with previous research findings?
   c) Where in the text are the practical implications of the findings discussed?
   d) Edit the long first paragraph into more readable shorter paragraphs. Where should it be split? Also correct the error in the first sentence.
   e) Which paragraph almost forms a separate conclusion?

4. Discussion

The accumulation of heavy metal in soils is of global concerns because heavy metals are persistent and cause bioaccumulation and biomagnification, detrimental effects on the plant–soil ecosystem, food-safety issues and potential health risks (Anjum et al., 2012). The application of phytoremediation technologies, as an alternative to expensive conventional chemical and physical methods, represents a great low-cost opportunity to reclaim contaminated soils, maintaining or even improving their biological characteristics. Nevertheless, economically sustainable phytoremediation requires further study, mainly aimed at increasing its efficiency. One of the drawbacks in phytoextraction technology regards the plants employed for metal extraction from soil, which are annuals and show a seed-to-seed life cycle occurring over a few months, usually in spring and summer (Sarma, 2011). Consequently, for most of the year, fields are not actively cleaned but are completely bare and subject to erosion by water and wind. This work investigated the benefit of using *L. albus* as a winter cover crop in a rotation sequence with a summer crop selected for phytoextraction. We showed that white lupin germinated and grew in an alkaline soil contaminated with heavy metals that had been partially restored by the application of continuous phytoextraction technology using industrial hemp during the two previous summer seasons. In those field conditions, where the fraction of bioavailable metals was very low, white lupin showed a high tolerance to heavy metals and absorbed and translocated a negligible amount of metals to its shoot. The scarce accumulation of heavy metals in white lupin shoot was also observed by Vazquez et al. (2006) during a field experiment performed in a region of Spain affected by mine sludge contaminated with As and Cd. In addition, previous studies performed in pots or hydroponic cultures also showed the retention of most metals in lupin roots (Ximenez-Embun et al., 2002; Pastor et al., 2003; Page et al., 2006; Esteban et al., 2008). Nevertheless, Page et al. (2006) noted that, although most of the metals were retained in root, their translocation and redistribution to younger leaves were dependent on the type of metal; for instance, in their hydroponic system, Cd and Co were nearly completely retained in root, whereas large quantities of Zn and Ni were accumulated in shoot via xylem. In our field experience, the percentage of translocation was almost equivalent for all of the metals present in the soil. This percentage was consistent at approximately 70% of the accumulated metals, but given the low amount of metals extracted by lupin plant, the quantity of metal translocated was a negligible fraction of the total bioavailable metal concentrations in the soil. To determine whether this high translocation percentage remained the same when the concentration of bioavailable metals in soil increased, we analyzed the data that we obtained through a pot trial performed in parallel with the field experiment. We found that the percentage of translocation decreased with the increase of assimilable metal concentrations in the soil, independent of the type of metal tested, and that the amounts of metal detected in the shoots were thus always negligible compared to the metal concentrations in the soil. Thus, during a continuous phytoextraction with summer crops, it can be supposed that the winter cultivation of lupin would not be useful to extend the period of active phytoextraction, but it would be useful for improving the soil quality by using the entire plants as green manure. In addition, our field experiment showed further benefits from the use of lupin as a rotation crop during phytoremediation, related to the increase in viable soil microorganisms and metal bioavailability in contaminated soil. Both of these actions could be related to the bacterial activity and to the release of metabolites into the soil from lupin roots and could have a positive effect on the metal extraction made by the successive summer crop (Hinsinger et al., 2003; Martínez-Alcalá et al., 2009). However, further studies are needed to clarify the mechanisms on the basis of these observations and their specific effects on the phytoextraction process. Finally, in evaluating the opportunity of exploiting white lupin as a rotation crop, we should consider that it also provides suitable cover crop and slows wind and water erosion. Preventing erosion is of primary importance in contaminated sites where the diffusion of pollutant-containing soil particles is very dangerous for residential populations and the environment.

In sum, we believe that the rotation of white lupin with a crop suitable for phytoextraction can improve the recovery of soil quality during phytoremediation. White lupin combines the reduction of metal concentration with the safety of the area by limiting additional ecological and human health problems and enhances soil health by avoiding the use of chemical amendments and by improving microbial soil diversity.

Source: Fumagalli et al. (2014).

4. Read the following text and in pairs discuss the questions below:

Some authors prefer to separate the Conclusion from the Discussion. The main advantage of this is that a busy reader can read the conclusion without first having to read all the possible interpretations of the results. A separate conclusion may also improve the clarity of the paper.

If the conclusion is written as a separate section, it should contain:

1) A brief restatement of the most important findings;
2) An assessment of the significance of the findings to the field of study;
3) An assessment of the impact and possible application of the findings;
4) An assessment of the limitations of the study and suggestions for improvement; 5) Suggestions for future research; 6) Any policy recommendations.

Source: Based on Wallwork (2011).

a) In pairs, using the text above and your own experience, discuss whether the conclusion should always form a separate section from the discussion.
b) What is most common in your field of study, for the conclusion to be separate, or not?

5. Read the following conclusions (texts A and B) below, and in pairs discuss these questions:

a) Do these two texts follow the advice given in 4 above? Check each point:

	1	2	3	4	5	6
Text A						
Text B						

b) How effective are these two texts as conclusions?

Text A

4. Conclusion

Overall, we find that communist nostalgia matters. Most Russians (but not most Belarusians or Ukrainians) regret the demise of the USSR, without necessarily wishing to return to it. President Putin has himself described the collapse of the USSR as the 'greatest geopolitical catastrophe of the twentieth century',[6] and surveys have found a consistently positive view of the USSR in retrospect, and of a closer degree of integration in the future. Belarusians and Ukrainians are less concerned about the demise of the USSR (it was obviously incompatible with the independence they had obtained in 1991), and less likely to support the formation of a unitary state of CIS member countries, but they strongly supported a closer degree of cooperation; very few, in any case, thought the CIS should be dissolved. Generally, it was a 'more democratic Soviet system' that was the most strongly supported form of government across the three countries, but a broadly market-based economy had more support than a command economy of the traditional kind. This was a differentiated, not a simple view of the communist legacy.

But wherever the mass public offered support to the Soviet state and the economic and political principles on which it had been based, those who regretted the demise of the USSR were even more likely to do so. More than could be explained by random variation, they were more likely than other respondents to favour the restoration of a wholly Soviet system of government, more likely to favour a Soviet-type economy, and more likely (almost by definition) to support the formation of a unitary state on the basis of the CIS member countries. Regretting the demise of the USSR also made a strong contribution, all other things being equal, to the patterns of electoral support that were apparent at parliamentary and presidential elections in the three countries. Nostalgics were much more likely to support parties of the left, or at least those that favoured public ownership, a Soviet or 'more democratic Soviet' system of government, and a closer association among the former Soviet republics; they were much less likely to support the parties that favoured a 'civilised divorce', a wholly market economy, or Western-style democracy.

'Communist nostalgia', at the same time, had to be disaggregated. There were very different views about the restoration of a unitary state in Russia and in Belarus and Ukraine, where it was incompatible with their newly acquired independence. There was support for a 'more democratic Soviet' system of government, but at the same time for the principles of the market economy. Not many, in the postcommunist or indeed in the late Soviet period, wanted a single party that exercised a political monopoly, or restrictions on what they could say. But there was a much larger constituency for full employment, low prices, comprehensive social welfare, and a state that took direct responsibility for economic management, particularly so after the international financial crisis began to develop in 2008. In none of the three countries had there been a widely supported movement for the overthrow of Soviet rule; in each of them there was considerable support, in retrospect, for many of the principles on which it had been based; and attitudes of this kind were closely associated with electoral choices and broader policy preferences. In this sense, the communist everyday is also the post-communist everyday.

Source: White (2010).

Text B

The purpose of this article was to investigate the impact of the issuance of fixed rate and floating rate linked bonds on yield spread premiums required by investors, when purchasing bonds with different maturities. The goal was to have a better understanding of how debt management affects economic growth. The results showed that agents respond to changes in the composition of debt, meaning that its management can have real effects on the economy. The estimations made clear that the required returns increase over time for fixed rate linked bonds, but reduce for floating rate bonds, as there is no wealth effect.

There is no doubt that increasing the issuance of fixed rate linked bonds, along with robust and credible economic policies, is the best strategy for a sound relationship between debt management and economic activity. The worst-case scenario would be high levels of debt related to fixed rate linked bonds in combination with instability of macroeconomic variables, which could result in high interest rate variability and have an adverse effect on economic activity. That was the case in Brazil in 1999 and 2003, when economic growth reached 0.3% and 0.5%, respectively. In fact, since mid-2000 the Brazilian public debt management has gone through important improvements, from a debt profile likely to be deleterious for economic growth and development, to a more favorable one. Nonetheless, an optimal path of government debt has yet to be reached.

Last but not least, our analysis can help understand how the stance of monetary policy can influence the debt management process. On the one hand, the effect of lowering interest rates, which has been the case in Brazil until the beginning of 2013, can be compensated, in an intertemporal strategy of monetary tightening, by the issuance of fixed rate linked bonds with longer maturities. This would certainly promote more efficiency in the conduct of monetary policy, with the improvement of the debt's maturity profile by lengthening the average maturity of the country's public debt.

This opens up alternative investment options between fixed rate and floating rate securities, with different spreads and maturities that, in a way, would enhance the transmission mechanism of monetary policy in Brazil, via volatility and portfolio effects. Besides that, such strategy would also help the coordination between monetary and fiscal policy, as the latter would become more predictable and less subject to sudden fluctuations.

Source: da Silva et al. (2014).

Unit 3.11: Tables, Charts, Graphs and Figures

1. **In pairs, discuss the following statements and questions:**
   a) What is the difference in meaning between a table, a chart, a graph, and a figure?
   b) I never use tables, charts, graphs or figures in my work.
   c) Tables, charts, graphs and figures are often more effective at communicating information than text.
   d) Tables, charts, graphs and figures are often over-used and the reader is left confused.
   e) Tables, charts, graphs and figures should be fully described in the text.
   f) Tables, charts, graphs and figures should not be described in the text as they speak for themselves.
   g) The data should only be presented once i.e. as a table or a chart but not both.
   h) The key features of tables, charts, graphs and figures should be described in the text.

2. **Layout.**

Tables usually show individuals and their characteristics e.g. individual plant species and their growth rates, individual locations and their levels of radioactivity, individual students and their height, weight etc. Consider layouts A and B below. Which is better? Explain why.

Layout A

	Anastasia	Ivan	Ivana	Natasha	Pavel	Vladimir
Height (m)						
Weight (kg)						
Eye colour						

Hair colour

Layout B

	Height (m)	Weight (kg)	Eye colour	Hair colour
Anastasia				
Ivan				
Ivana				
Natasha				
Pavel				
Vladimir				

3. **Example layout. Does it match type A or type B above?** Source: Ahemad (2015).

Table 1 Heavy metals prevailing in soils and their regulatory limits.

Metal	Concentration range (mg kg^{-1})	Regulatory limit (mg kg^{-1})
Lead	1–6900	600
Cadmium	0.1–345	100
Arsenic	0.1–102	20
Chromium	0.005–3950	100
Mercury	0.001–1800	270
Copper	0.03–1550	600
Zinc	0.15–5000	1500

Source: Salt [86].

4. **Decide whether the following statements are correct or not:**

	Statement	**Correct? Yes/No**
1	Repetitive determinations (findings) are best presented in tables.	
2	Each graph should be as simple as possible. The temptation is to include too much information.	
3	If you include a photograph, it is helpful to add pointers or markers to highlight key areas.	
4	Graphs are preferable to tables for showing precise values.	
5	Graphs need to be prepared with the final print version in mind, as they need to be readable.	
6	Grouping graphs together in a single figure for comparison is always a bad idea. Always keep them separate.	
7	Figures can include photographs but this is not a good idea as they tend to distract the reader from the text.	
8	Refer to each graph in the text as soon as the reader is likely to want to see it.	
9	You should not expect a graph to be understandable without also reading the text.	
10	Graphs are preferable to tables for showing trends in the data.	

Source: Based on Day & Gastel (2011).

5. Look at the following example of a table.

a) Does it work more effectively than text?

b) Why (not)?

Table 3 PGPB traits in expediting phytoprotection and phytoremediation from/in metal stress.

Activity/metabolite	Role
Siderophores	Alleviate the suppression of chlorophyll biosynthesis due to metal-induced iron deficiency by providing iron to metal-stressed plants
	Alleviate the metal induced-stress in plants by supplying iron to plants exposed to metal contaminants
	Decrease free radical formation around plant roots and shield microbial phytohormones from metal-induced oxidative damage by means of chelation reaction
	Augment bioavailability and mobility of metals by solubilizing metal-minerals, subsequently enhance metal accumulation, in turn phytoextraction
	Protect plants from soil-microbial pathogens by limiting iron availability to them
Organic acids	Solubilize and mobilize metal containing inorganic sources
Biosurfactants	Accelerate metal bioavailability by decreasing the tight binding between metals and soil particles
	Bind preferentially toxic metals with strong affinity than the normal soil metal cations
Indole acetic acid	Enhances plant growth (irrespective of bacterial metal resistance/sensitivity) in metal contaminated soils
	Promotes absorption of nutrients and metals by proliferating plant roots
	Facilitates adaptation and tolerance to metals in metal-stressed plants by inducing physiological changes
ACC deaminase	Lowers growth inhibitory levels of ethylene produced in plants exposed to metal stress
	Improves the effectiveness of metal phytoremediation by facilitating plants to achieve longer roots and greater root density in metal-stressed soils

PGPB: plant-growth-promoting bacteria; ACC: 1-aminocyclopropane-1-carboxylate. Information derived from Burd et al. [19], Neubauer et al. [55], Sharma et al. [70], Singh and Cameotra [74], Idris et al. [42], Kalinowski et al. [43], Belimov et al. [13], Braud et al. [17,18], Arshad et al. [10], Saravanan et al. [66], Dimkpa et al. [26], Bianco and Defez [14], Egamberdieva [28], Dimkpa et al. [27], Gamalero and Glick [34], Rajkumar et al. [58], Glick [35], Ma et al. [53], Hao et al. [38].

Source: Ahemad (2015).

6. Look at the figure below.

a) Identify the type(s) of graph shown.

b) Identify a legend.

c) Identify a label for an axis.

d) Identify a scale.

e) Identify a title.

f) Identify a scribe mark.

g) Identify a caption.

h) In pairs, discuss how well you think these graphs work.

Source: Abridged from Fumagalli et al. (2014).

7. **Look at the following figure.**
   a) Does it work more or less effectively than the equivalent text?
   b) Could it be improved?
   c) Would a table work better?

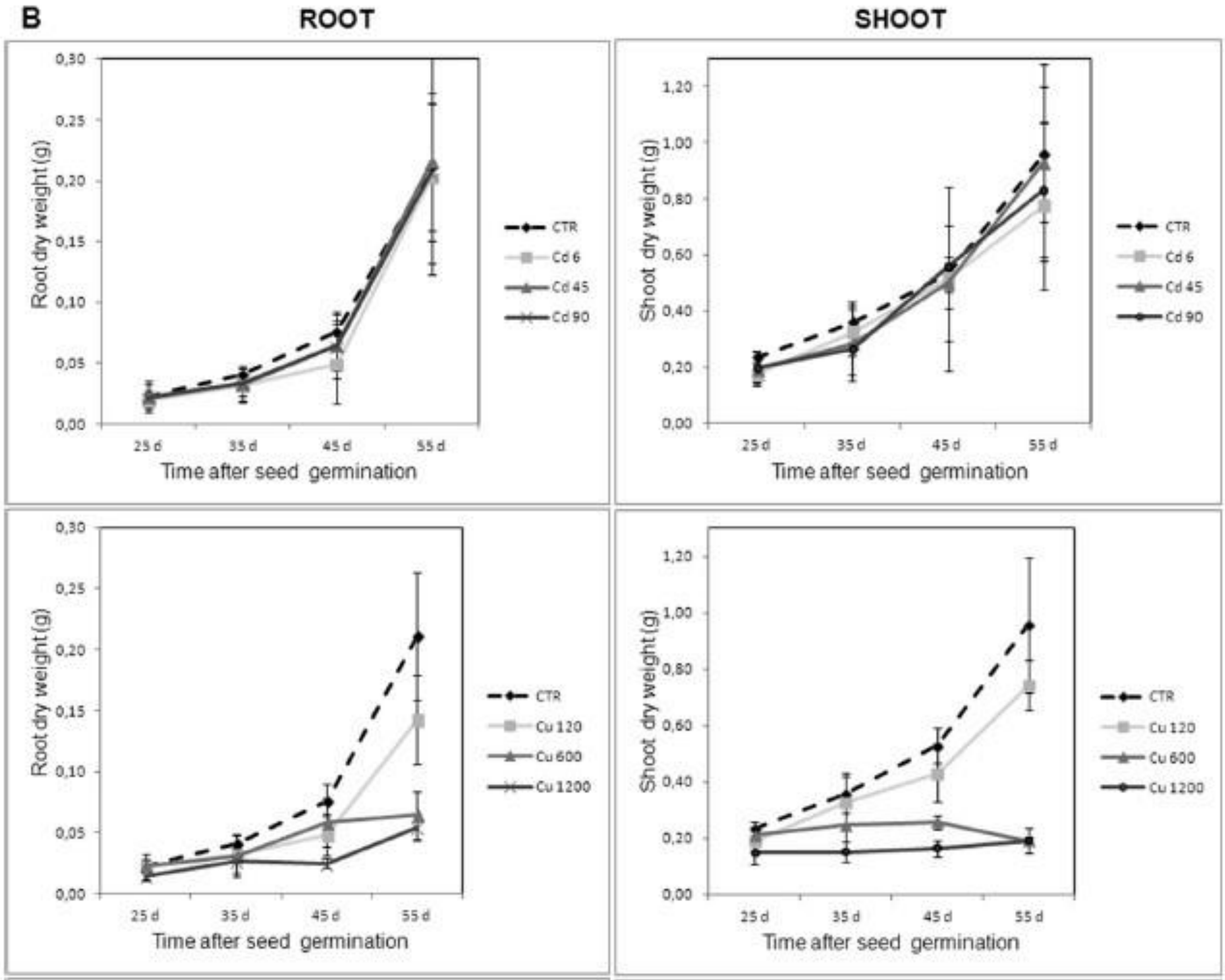


Fig. 1. Seed germination and plant development in artificially contaminated soils. The mean percentage of seed germination and the mean root and shoot dry weight of 12 plants (4 from each pot) for each treatment, for each growth stage ± standard deviation are reported. A seed was defined germinated once the primary root first protruded. The percentages reported were calculated on a total of 72 seeds (24 per pot). *Statistically different from the control.

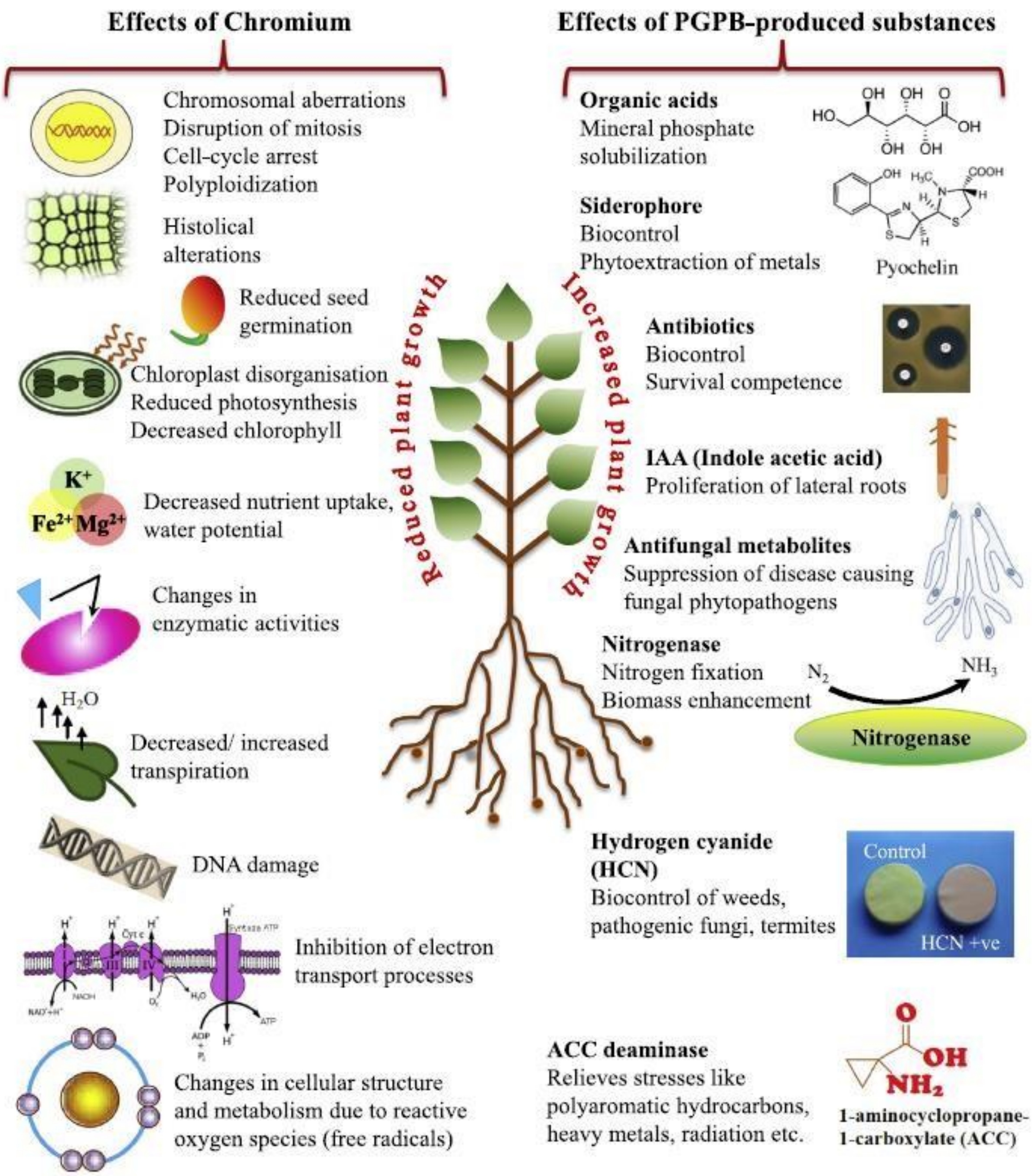


Figure 1 Chromium-induced changes and effects of different metabolites/activities of plant growth promoting bacteria (PGPB) on plants.

Source: Ahemad (2015).

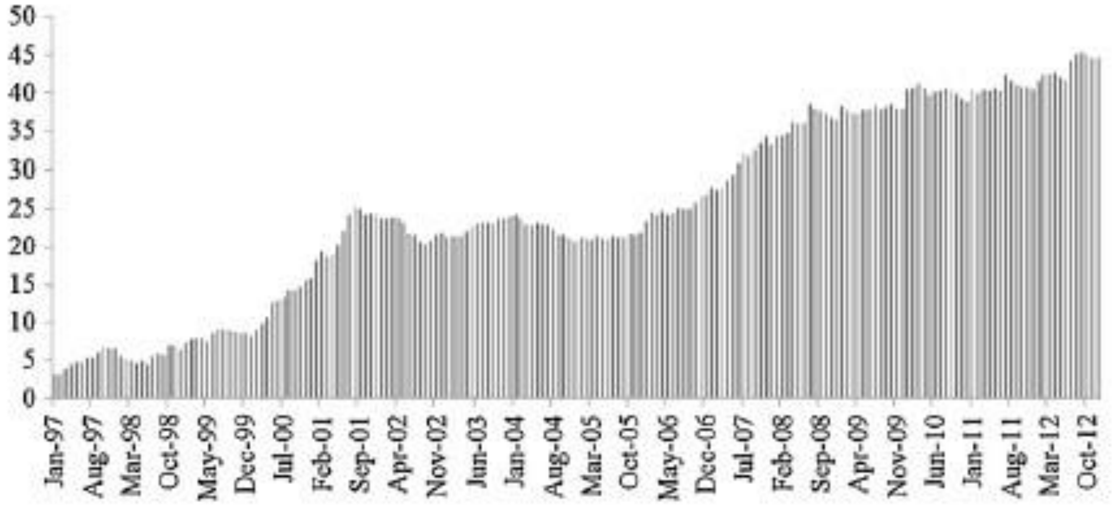
8. Read the text and examine the graph below.

a) Does the text describe the graph fully, not at all, or pick out key features?
b) Which phrases describe data shown on the graph?
c) How clear is the graph?
d) How effectively do the authors combine use of text with use of a graph?
e) Correct any English errors in the text.

Text

Fig. 3 depicts the lengthening of federal public debt average maturity. The first impulse dates back of 1999, the abandonment of the exchange-rate anchor, because there was no longer a need to attract foreign savings and, therefore, no need to issue the same amount of short-term public debt. After this first impulse, debt maturity was relatively stable until 2006, reflecting government efforts to obtain credibility to its economic policy and, at the same time, attract more investors to buy fixed rate linked securities. From 2007 on, when the share of floating rate linked bonds started to be reduced, and the share of fixed rate bonds started to increase, the average debt maturity reached 36 months (Pedras, 2009). In 2011, the lengthening of debt average maturity picked up again, in line with a more intense substitution of floating rate securities for fixed rate or inflation-linked bonds.

Graph



*The graph begins in January/1997 due to data availability

Fig. 3. Domestic federal public debt: average maturity (in months, Jan/1997–Dec/2012)*.

Source: da Silva et al. (2014).

9. In pairs, discuss the following questions:

a) Would you ever use a photograph in a journal article?
b) Why (not)?
c) Do you use data visualisation tools?
d) Why (not)?
e) Would you ever embed a video (e.g. an animation) in the online version of a journal article?
f) Why (not)?

Unit 3.12: References

1. Use the words in the box to fill in the gaps in the text below:

unnecessary	research paper	citing	combination	style	body publications
footnotes	matching	format	bibliography	style guide	

What is an in-text reference?
An in-text reference is a reference which occurs in the (1)________ of the text of the report. For example, in the introduction, the phrase: "Jones (2015) argues that…." might be used. The (2)_______________________ of the author name together with the year of publication is an in-text reference. Depending on the style of referencing, more than one (3)____________________ of in-text reference may be allowed. The use of an in-text reference means that you are (4)____________________ the author(s) concerned.

What is a reference list?
A reference list is a list of (5)______________________ which have been consulted in preparing an academic work such as a (6)________________________________. Another name for a reference list is a (7)__________________________. The format of the entries in a reference list depends on the (8)____________ of referencing chosen. There is a reference list at the back of this teaching aid. The entries in it have been made using the Harvard style of referencing.

What is the connection between an in-text reference and a reference list?
Every in-text reference should have a (9)_______________________ entry in the reference list. This is because the full publication details are only given in the reference list. Thus someone wishing to check the source of a claim needs to go from the in-text reference for the claim to the corresponding entry in the reference list.

Should every entry in a reference list be cited in-text?
The short answer to this is yes. Most journals dislike reference lists which contain (10)______________________ entries. However, for monographs the rules may be different. For example, it may be important to show how widely the author has read, and which works were consulted, even though some works have not been cited within the body of the text.

What different referencing styles exist and which should I choose?
There are a number of differencing referencing styles in use, such as Harvard, Chicago and Vancouver. The style that you should use is the one recommended by the (11)_________________________ for the journal that you are aiming to publish in. The major split is between styles which use year and author in-text (such as Harvard) and note-based styles such as those used in subjects such as History which use (12)______________________ or endnotes. A note-based reference takes the form of a superscript and the reference is given in full at the bottom of the page (for a footnote) or at the end of the chapter or book (for an endnote) as in this example.[1] Reference management software (e.g. Zotero, Endnote, Mendeley) can help you to format references.

2. **Look at the Reference List at the back of this teaching aid.**
   Find examples of:
   a) A chapter from an edited collection.
   b) A story from a newspaper, read online.
   c) A journal article.
   d) A journal article which has not yet been published in the journal, read online. e) A book.

[1] A N Author, *Title of work* (Place: Publisher, Year), p.99.

f) An online source which is not a newspaper or journal article.

3. **Use the Reference List at the back of this teaching aid as a guide to Harvard style. Correct the following reference list entries according to Harvard style, but only if necessary (two are correct):**

1	Shaw, C 2013, ‘Hundreds of open access journals accept fake science paper’, *The Guardian*, viewed 27/4/15, http://www.theguardian.com/higher-educationnetwork/2013/oct/04/open-access-journals-fake-paper
2	Day, R & Gastel, B 2011, ‘How to Write and Publish a Scientific Paper’, Greenwood, Oxford.
3	J Corbett, 2007, ‘Writing the Introduction and Conclusion of a Scholarly Article’, in DN Soule, L Whiteley & S McIntosh (eds), *Writing for Scholarly Journals: How to Publish in the Arts, Humanities and Social Sciences*, eSharp, University of Glasgow, Glasgow, pp.24-33.
4	da Silva, CG, de Castro Pires, MC & Bittes Terra FH, ‘The effects of public debt management on macroeconomic equilibrium: An analysis of the Brazilian economy’, *EconomiA*, vol. 15, pp. 174-188.
5	Babcock, RD 2015, ‘Rhetorical argument, folk linguistics, and content-oriented discourse analysis: A follow-up study’, *Ampersand*, article in press, 14 May 2015, http://dx.doi.org/10.1016/j.amper.2015.04.001
6	Cornell University Library (Research & Learning Services, Olin Library) 2015, *How to prepare an annotated bibliography*, viewed 21 June 2015, http://www.library.cornell.edu/olinuris/ref/research/skill28.htm
7	White, S 2010, ‘Soviet nostalgia and Russian politics’, *Journal of Eurasian Studies*, vol. 1, pp. 1-9.
8	Ramachandra Rao, R, Mariappan, L & Roopa, H N 2014, ‘Fabrication of micro-featured shapes of alumina ceramics’, *Procedia Materials Science*, vol. 5.
9	Kiran, R & Khandelwal, K 2014, ‘Computational Models for Ductile Fracture Prediction in Structural Engineering Applications’, *Procedia Materials Science*, vol. 3, p. 19471955.
10	Kelly, C 2010, ‘‘A dissonant note on the Neva’: Historical memory and city identity in Russia’s second capital during the post-Stalin era’, *Journal of Eurasian Studies, vol. 1*, pp. 72-83.

4. **In pairs, discuss the importance of referencing.**
   a) Think of THREE reasons why it is important.
   b) Discuss your reasons with another pair.

Unit 4.1: Troubleshooting

For this unit all students will need to bring in a printed draft of their current research paper.

Before submitting your research paper to a journal, you need to anticipate any problems that might be hidden in your draft paper. The techniques suggested here should help to highlight any problems.

1. **Proofreading (1).**
   a) In pairs, exchange your draft articles and ask your partner to see if they can identify any errors in the English.
   b) If you are unsure whether something is correct or not, ask the tutor for advice.
   c) Also ask your partner whether any parts of your draft are unclear.
   d) Make sure your partner marks any queries or corrections on your draft.

2. **Proofreading (2) In pairs, discuss:**
   a) Why is proofreading difficult?
   b) Do you have any tips for better proofreading?
   c) Are there any special difficulties when proofreading an article you are submitting in English?
   d) What dangers are there if the proofreader and the author do not communicate well?
   e) If you ask a proofreader to check the English version, are they responsible for the final draft?

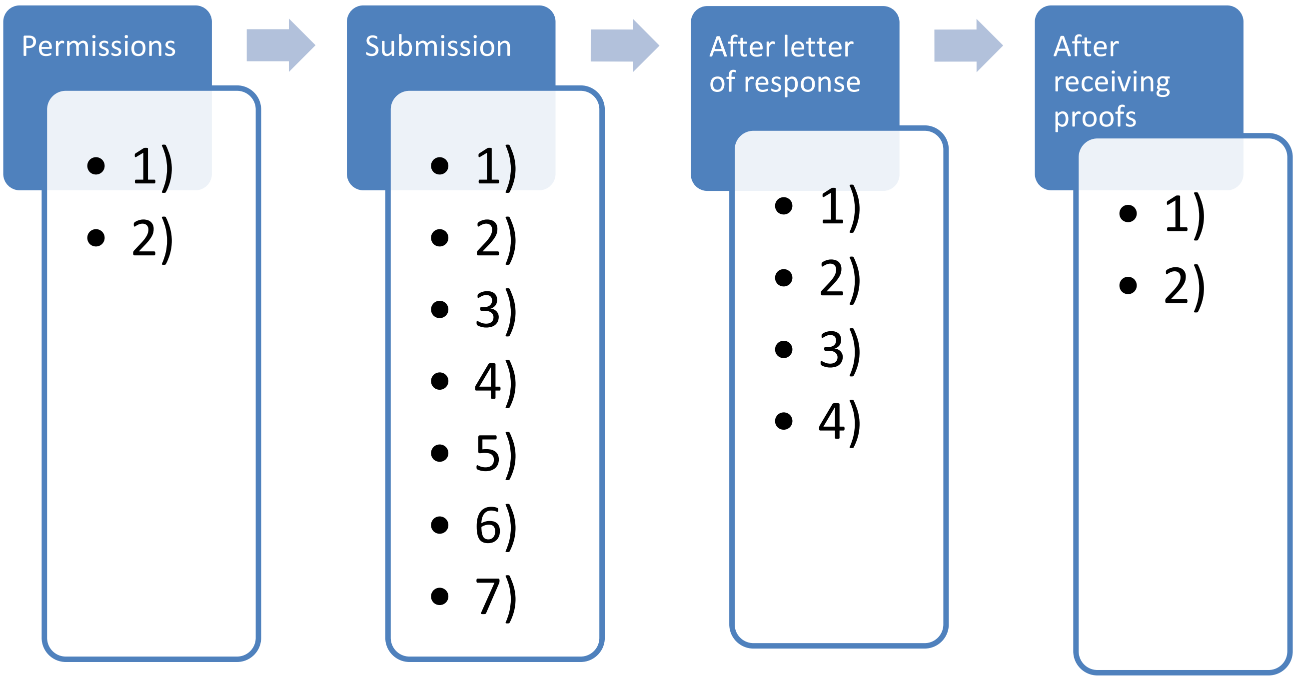
3. **Reverse outlining.**
   a) Look back at the advice given on outlining and reverse outlining in Unit 1.4.
   b) Remember that reverse outlining involves taking a completed article and writing down its structure in outline form.
   c) In pairs, exchange your draft articles. Read your partner's draft and write down its structure.
   d) Look at your partner's structure and comment on how logical and coherent it is.
   e) Now read through the "topic" sentences of each paragraph in your partner's draft. Does the argument flow?

4. **Mini-presentation.**
   a) Read through the reverse outline (structure) of your draft that your partner drew up. Make sure it is correct.
   b) Use it to prepare a mini-presentation of your research.
   c) Give a three-minute talk to your partner about the contents of your draft partner.
   d) If your draft is in good shape, you should be able to talk about the contents of the paper fairly easily.
   e) Ask your partner for feedback about anything they didn't understand in your minipresentation.

Unit 4.2: Submitting your article

1. **Put the following steps into the right order using the grid below. Note that more than one answer is possible for some tasks:**

a) Wait for a response from the journal editor.
b) If the response is an acceptance, wait for the proofs.
c) Review the instructions to authors from the journal.
d) If the response is a rejection, look carefully at any feedback, note how it can be improved and decide whether to submit it to a different journal.
e) Proofread and spell-check the version of the article that the publisher is going to print (the proofs).
f) After modifying the article, resubmit it.
g) Transfer copyright permission for the images to the journal.
h) Make sure your article is appropriately formatted (font, spacing).
i) Correct the proofs and forward the corrections to the publisher.
j) Obtain permission to republish any copyright images.
k) Write a cover letter to accompany your article (you may have to paste this into a template on a website).
l) If the response is a request to modify the article, read the feedback from peer reviewers and make the necessary changes.
m) Await an acknowledgement from the publisher that they have received the article (may be automatic).
n) Submit your article according to the publisher's instructions e.g. through a website, by email.
o) Proofread and spell-check the version of the article that you are going to submit.



2. The following instructions are from a publisher's submission checklist for authors.
a) What is a submission checklist?
b) Rearrange the words so that the sentences make sense.
c) Think of FOUR additional things to add to the checklist.

1) regarding / specific / the journal’s / checked / for instructions / formatting / requirements / for submission? / Have you / website / to authors
2) manuscript / the / double-spaced? / Is / entire
3) figures? / Are / as / the /the / the / figure / on / same / page / captions/ 4) all / Are / the / title/ pages/ numbered/ in/ starting with/ page? / sequence,
5) more / Is the / 12 /title / no / than / words?
6) and 250 / range / 150 / Does / the abstract / between / words?
7) not longer / longer / single /paragraph /than /Is /each /a sentence /but/ than/ one / page?/ manuscript
8) the organization of / the levels of / Do / reflect / headings / accurately / the paper?
9) explained? / and necessary /Are / eliminated/ unnecessary /abbreviations/ ones
10) but /Are/ the /most /Greek/ manuscript?/ symbols/ letters/ and/ all/ the/ common/ identified/ on/ mathematical
11) in /in text/ cited /references /and /the/ reference /list? /Are/ both
12) table / stub / heading?/ every /including the / Does / column,/ column, /have a

Source: American Psychological Association (2015).

Unit 5.1: Paragraph Structure / Sentence Order

The first sentence of the paragraph should introduce the main topic.
The next sentence should be a logical extension of the first sentence.
Vary the length of your sentences, but generally keep them short.
Avoid semi colons. Instead, begin a new sentence.
Provide examples / support for what you say and for your findings.

Task 1

Read this Introduction to a paper. Is it clear, well structured and logical?

For the last few years, since 2004 in fact, a great deal of interest has been shown, in the areas of research connected to the theme of what is known in the literature as readability. In particular, it has been found that, as was probably to be expected, that readers have a preference for phrases that are logical, coherent, short, and thus easy to read; on the other hand, and perhaps ironically, they themselves tend to write in rather illogical, dense and long sentences that often have to be read twice before they can be understood. An example of this is the front page of the Wall Street Journal which is written so that it can be understood by a 15 year old; furthermore, complex subjects such as finance, taxes, and business trends, are written in a way that can be understood by the average 17-year-old. However, according to Mueller, “It’s not a question of what people can read; the real question is, what will people read without intense concentration?” A new concept of readability, which also includes what we call the ‘enjoyment factor’ is presented and analysed.

Task 2

Read the paragraph again and answer the questions.

1. Does the first sentence of the paragraph clearly introduce the main topic?
2. Is the contribution of the paper immediately made clear?
3. Is each sentence a logical extension of the previous sentence?
4. Are link words used effectively to connect sentences together?
5. Do the sentences vary in length, and are they essentially reasonably short?
6. Are semi colons avoided, and commas used to a minimum?
7. Do the words phrase and sentence have a difference in meaning?

Task 3

Read this rewritten version. In what ways is it better?

Most documents are written in a complex way. Ironically, the people who write them, even Harvard professors, actually prefer to read texts that can be understood immediately. Readers prefer sentences that are logical, coherent, short, and thus have a high level of ‘readability’. In this paper we extend the concept of readability to enjoyment – for a paper to be readable it must also be enjoyable, in the same way as a ‘watchable’ movie is fun to watch. This finding is in agreement with research [1, 7] carried out by the Wall Street Journal and Newsweek which proved to these publications that the simpler they write, the more of what they write will be read by their sophisticated, well-educated readers. In fact, complex subjects such as finance, taxes, and business trends, are written in a way that can be understood and enjoyed by the average 17-year-old. Our findings also concur with Mueller [13] whose paper on 'readability' states that “It’s not a question of what people can read; the real question is, what will people read without intense concentration?”

Unit 5.2: How to be Concise and Simple

The ability to simplify means to eliminate the unnecessary so that the necessary can speak. Hans Hoffman (abstract painter)

A good scientific theory should be explicit to a barmaid. Ernest Rutherford (physicist)

What referees say:

The paper was extremely long and must be massively reduced in length. ... The paper was packed full of vague statements .... The abstract was far too long. …The opening sections were superfluous ...

Reduce the length by 25%.

I would like to see some concrete examples, rather than the somewhat long-winded technical explanations that were not very clear.

Source: Wallwork (2011).

Three ways to reduce the length of your sentences:

1. Have a maximum of two ideas/parts per sentence

2. Put the subject at the beginning of the sentence and key information in the second part.
3. Cut the number of times you use which, and and other link words

Three ways to reduce the amount that you write:
1. Remove redundant words For a period of six months = For six months
2. Reduce number of words This gives us the possibility to do do x = This allows us to do x.
3. Use verbs instead of nouns We made an analysis of x = We analysed x

1. Reduce the length of the sentences
Each sentence below is too long. In each case, decide where you could make a break (//) in the sentence. Then indicate how you would begin the next phrase after the break.
Example:
BEFORE: PhD students are famous for delaying the terrible moment when they actually have to find a real job which means that they live in poverty or they have to have very rich parents to support them.
AFTER: PhD students are famous for delaying the terrible moment when they actually have to find a real job. // This means that teither they live in poverty or ...

1. The aim of this paper is to confirm that how we speak and write generally reflects the way we think and that this is true not only at a personal but also at a national level, and to this end two European languages were analysed, English and Italian, to verify whether the structure of the language is reflected in the lifestyle of the respective nations.
2. English is now the world's international language and is studied by more than a billion people in various parts of the world thus giving rise to an industry of English language textbooks and teachers, which explains why in so many schools and universities in countries where English is not the mother tongue it is taught as the first foreign language in preference to, for example, Spanish or Chinese, which are two languages that have more native speakers than English.
3. As a preliminary study, in an attempt to establish a relationship between document length and level of bureaucracy, we analysed the length of 50 European Union documents, written in seven of the official languages of the EU, to confirm whether documents, such as reports regarding legislative and administrative issues, vary substantially in length from one language to another, and whether this could be related, in some way, to the length of time typically needed to carry out daily administrative tasks in those countries (e.g. withdrawing money from a bank account, setting up bill payments with utility providers, understanding the clauses of an insurance contract). The results showed that ..

Source: Wallwork (2011).

2. Delete any unnecessary words or phrases.
Example: The solution **adopted** was to implement ....
1. The result obtained shows that the bugs present in the software have been eliminated.
2. The documents were written in the English language.
3. This was carried out for a period of three months in the first year and for a period of six months in

the second year.

4. They have shown we should also consider the possibility of doing the testing in advance.

5. It is important to note that one plus one is equal to two.
6. Our research activity was initially focused on …
7. As we have already mentioned in Section 4.2.1, it has already been noted in the past and also

more recently that substantial improvements in performance can be achieved by ...

8. A number of solutions have been proposed during the last few years and their potential has been

thoroughly [= in modo esaustivo] analyzed in the literature [3].

3. Replace the phrases in bold with ONE word.

Example: This took a considerable number of years to implement .... many

1. This one was bigger **with respect to** the other one.
2. This **made it possible** for us to do X **by means of** Y.
3. **As a consequence of this**, we **are in a position to** do Y.
4. **In order to** do this, the application searches for solutions **in an automatic way**.
5. **From now on** in this document these will be referred to as X and Y.
6. This **allows us to reduce** the complexity **due to the fact that** X can now be used.
7. **On the basis of the fact that** X =Y, we can now do Z.
8. This should be avoided since **it is generally the case that** there is ambiguity.

4. Find a one-word equivalent for the following. Example: To perform an analysis = to analyse

1. to carry out a test
2. to make a comparison
3. to achieve an improvement
4. to implement a change
5. to effect a reduction
6. to exhibit a performance
7. to execute a search
8. to give an explanation
9. to show an improvement

5. Replace the noun phrase with a verb.

Example: I don’t know every student here = I don't know everyone who studies here.

1. What is the pronunciation of this word? How do you ______ this word?
2. I live far away from my birthplace I live far away from where I ______ 3. This is linked to my current project This is linked to what I ______ now
4. What type of studies did you do? What did you ______?
5. After the degree I’m going to look for a job. When I ______ I’m going to look for a job.
6. Sorry for the delay. Sorry I ______ late.

6. Replace the phrases in bold with a verb and make any other necessary changes.

1. This highlighted **a much better performance of England compared to** Italy.
2. This section **contains an explanation** of the various parameters.
3. The user **has the ability to** change the features.

4. These methods will be used **for an investigation of** the properties of … 5. **The installation of the system is done** automatically.

7. Rewrite three or four of these titles.

1. The Specification and the Evaluation of Educational Software
2. A Language for Idea Communication
3. Methods for the Analysis of Italian and British Governmental Systems
4. Educational Software Specification Definitions Trends
5. Cultural Heritage Audiovisual Material Multilingual Search Gathering Requirements
6. New archaeology research and teaching technologies
7. Examining Narrative Cinema Fiction and Fact Boundaries

Source: Based on Wallwork (2011).

Unit 5.3: Word Order

Basic word order in English

English has a strict order in which words can appear in a sentence. It is: 1. subject (*the researchers*) 2. verb (*sent*) 3. direct object (*their manuscript*) 4. indirect object (*to the journal*). The key is to keep the subject, verb, direct object and indirect object as close to each other as possible.

Choose the most relevant subject and put it at the beginning of the sentence

Clear English requires that you put the subject at the beginning of the sentence, however you may have a choice of possible subjects.

X was elicited by Y.

Y elicited X.

In the simple example above, your choice will depend on whether you want to emphasize X or Y. The one you want to emphasize should be put as the subject.

Choose the subject that leads to the most concise sentence

If your sentence is short and you have two possible subjects, which you could indifferently put at the beginning of the sentence, then choose the subject that will give the shortest sentence (S2 rather than S1).

S1. The *most significant values* are highlighted in *Table 1*.

S2. *Table 1* highlights the *most significant values*.

Shorter sentences are often obtained by using active (S2) rather than passive (S1) verbs.

Don't make the impersonal *it* the subject of the sentence

Putting *it* first often delays the subject. Use modal verbs (*might, need, should* etc.) where possible.

original version (ov)	**revised version (rv)**
It is probable that this is due to poor performance.	This *may / might / could* be due to poor performance.
It is possible do this with the new system.	This *can* be done with the new system.
It is mandatory to use the new version.	The new version *must* be used.

Don't use a pronoun (*it, they*) before you introduce the noun (i.e. the subject of the sentence) that the pronoun refers to

It is OK to use a pronoun at the beginning of the sentence, provided that this pronoun refers back to a noun in a previous sentence (i.e. a backward reference). For example:

S1. *Beeswax* is a very important substance because ... In fact, *it* is ...

In S1 it is clear that *it* refers to beeswax. But in S2 *it* refers to a noun that comes after (i.e. a forward reference). The reader does not know what the pronoun refers to and thus has to wait to find out.

S2. *Although *it* is a very stable and chemically inert material, studies have verified that the composition of *beeswax* is …

S3. Although *beeswax* is a very stable and chemically inert material, studies have verified that *its* composition is …

S3 immediately tells the reader what the subject is.

Source for all of the above: Wallwork (2011).

Put the subject before the verb

The subject in English must come before their verb. Here are some examples of simple mistakes (OVs) and their corrected versions (RVs). The subjects are highlighted in italics.

original version (ov)	revised version (rv)
In the survey participated *350 subjects*.	*Three hundred and fifty subjects* participated in the survey.

Avoid inserting parenthetical information between the subject and the verb

If you insert more than a couple of words between the subject and the verb this will interrupt the reader's train of thought. In any case readers will consider this parenthetical information to be of less importance. Sentences are much easier to read if they flow logically from step to step, without any deviations.

original version (ov)	revised version (rv)
The result, after the calculation has been made, can be used to determine Y.	After the calculation has been made, the result can be used to determine Y.
This sampling method, when it is possible, is useful because it allows	When this sampling method is possible, it allows us ...
These steps, owing to the difficulties in measuring the weight, require some simplifications.	Owing to the difficulties in measuring the weight, these steps require some simplifications.

Don't separate the verb from its direct object

When a verb is followed by two possible objects, place the direct object (i.e. the thing given or received) before the indirect object (the thing it is given to or received by).

original version (ov)	revised version (rv)
We can *separate*, with this tool, *P and Q*.	We can *separate P and Q* with this tool.
We can *associate* with these values *a high cost*.	We can *associate a high cost* with these values.

Put the direct object before the indirect object

In the OVs below, the indirect object (in italics) has been placed at the beginning of the sentence or main clause. This is not the usual word order in English.

original version (ov)	revised version (rv)
However, only *for some cases* this operation is defined, these cases are called ...	However, this operation is only defined *for some cases*, which are called ...
Although *in the above references* one can find algorithms for this kind of processing, the execution of …	Although algorithms for this kind of processing are reported *in the above references*, the execution of…

Source for all of the above: Wallwork (2011).

How to choose where to locate an adverb

The rules regarding where to locate adverbs are not difficult to understand, but there are many of them. Here are some basic rules.

Most one-word adverbs, particularly adverbs of frequency (a)

Immediately before the main verb.

Dying neurons do not *usually* exhibit these biochemical changes.

The mental functions are slowed, and patients are *often* confused.
(b) Immediately before the second auxiliary when there are two auxiliaries.
Language would *never* have arisen as a set of bare arbitrary terms if …
Late complications may not *always* have been notified. (c) After the present and past tenses of 'to be'
The answer of the machine is *always* correct.
The adverbs *only* and *also*, which are two of the most frequently used adverbs in research papers, follow the above rules (a–c).
For special emphasis, some adverbs (*sometimes, occasionally, often, normally, usually*) can be placed at the beginning of a sentence,
Normally X is used to do Y, but *occasionally* it can be used to do Z

Adverbs of certainty
Adverbs of certainty (e.g. *probably, certainly definitely*) come immediately before the *negation* (*not* and contractions e.g. *don't, won't, hasn't*)
These random substitutions will *probably* not have a major effect.

Adverbs of manner
An adverb of manner indicates how something is done. They are generally placed directly after the verb, or after the direct object
The curve rises *steadily* until it reaches a peak at 1.5.
This will help system administrators *considerably* to reboot the system.
Some adverbs of manner can go before the verb. But, since all adverbs of manner can always also go after the verb or noun it is best to put them there as you will never make a mistake.

Adverbs of time
These go in various positions.
S1. Patients were treated *once a week*, and surgery was carried out *as soon as possible* after the decision to operate.
S2. There has *recently* been an increasing interest in 3D cellular phones.
S3. *Recently* there has been an increasing interest in 3D cellular phones.
S4. *In the last few years* there has been an increasing interest in 3D cellular phones.

Avoid creating strings of nouns that describe other nouns
You cannot indiscriminately put nouns in front of each other. For example, you cannot say *art state technology* (state-of-the-art technology) or *mass destruction weapons* (weapons of mass destruction). But you can say *a software program* or *an aluminum tube*.
Native speakers do tend to string nouns together, but they intuitively know how to do it. In fact, they are not following any written rules, but they base themselves on examples that already exist. If you are a non-native speaker I strongly recommend that you verify on Google Scholar that your proposed string of nouns already exists and has been used by native English-speaking authors.
If it does not exist, it will sound very strange to any native English-speaking referees, and more than one occurrence of such structures could cause the referee to recommend that your English be revised.

Source for all of the above: Wallwork (2011).

Task 1

Choose the best sentence (a or b). The parts in bold are designed to show you the main differences in the word order in order to help you choose the best option.

1. a) **The following are** some examples of rare species:

b) Examples of rare species **are the following**:

2. a) Among the factors which influence longevity of seeds, of particular importance are **temperature and moisture content**.

b) **Temperature and moisture content** are particularly important factors influencing the longevity of seeds.

3. a) Sometimes 802.16 systems are referred to as Worldwide Interoperability for Microwave Access (WiMAX) systems **in the trade press**.

b) **In the trade press**, 802.16 systems are sometimes referred to as Worldwide Interoperability for Microwave Access (WiMAX) systems.

4. a) However, **this operation is only defined for some nouns** , which are called countable nouns.

b) However, **only for some nouns this operation is defined**, these nouns are called countable nouns.

5. a) **To do this exercise**, you do not need to be able to understand the meaning of the technical words.

b) You do not need to be able to understand the meaning of the technical words **in order to do this exercise**

Task 2

Putting the key words first

Rewrite the sentences so that they begin with a subject. There are several possible ways to do this as highlighted in the example. Just choose one way.

Concerning the role of education, it is given great emphasis in their society.

= The role of education is given great emphasis in their society.

= Their society gives great emphasis to the role of education.

= Great emphasis is given to the role of education in their society.

1. As far as religion is concerned, it plays a fundamental role.
2. With regard to politics, the vast majority of politicians are men.
3. In relation to performance, this increased in direct relation to the number of training sessions.
4. Concerning the side effects of the treatment, only one serious effect is currently known about.
5. Regarding the best way to learn a language, several theories have recently been developed.

Task 3

Avoiding beginning the sentence with *it is*

Rewrite these sentences so that they do not begin with it is .

1. It is easy to carry out these tests.
2. It is regretted that your manuscript does not fit the scope of the conference.
3. It is possible that salaries will increase.
4. It is important to clean the samples.
5. It is necessary to define the stresses with respect to the original configuration.
6. It is highly probable that all future implantations will be required to adhere to new safety rules.
7. It would be advisable to calculate the coefficients beforehand.

8. It is reasonable to think that at least one value will equal X.
9. It is possible to use the code for other purposes as well.

Task 4

Choosing the best word order to help the reader:

Choose the sentence (a, b or c) that best enables the reader to quickly assimilate the information contained in the sentence. **Examples**

(a) This makes it possible to read with sufficient precision the sensor.

(b) This makes it possible to read the sensor with sufficient precision.

Key: a) is incorrect because it interrupts the normal word order of English: subject + verb + object

1. a) Do you have any openings in your laboratory for PhD students?

b) Do you have any openings for PhD students in your laboratory?

c) For PhD students do you have any openings in your laboratory?

2. a) I would like to request a delay in submission of manuscript #: 08SFL-00975 until 21 October.

b) Until 21 October I would like to request a delay in submission of manuscript #: 08SFL00975.

c) I would like to request a delay until 21 October in submission of manuscript #: 08SFL00975.

3. a) Please find attached a copy of the paper for your convenience.

b) For your convenience, please find attached a copy of the paper.

c) Please, for your convenience find attached a copy of the paper.

4. a) Please could you let me know how I can change the status of my paper.

b) Please you could let me know how I can change the status of my paper.

c) Please could you let me know how can I change the status of my paper.

5. a) Given that our deadline is the first week of next month, I would be grateful to receive your revisions by the end of this month.

b) By the end of this month, given that our deadline is the first week of next month, I would be grateful to receive your revisions.

c) Given that our deadline is the first week of next month, I would be grateful to receive by the end of this month your revisions.

Task 5

Shifting the parts of the phrase to achieve optimal order

Decide which you think is the best word order. If both are possible, what is the difference in meaning / emphasis?

1. (a) In the second experiment, the plants accumulated lower amounts of selenium.

b) The plants accumulated lower amounts of selenium in the second experiment.

2. a) These findings highlighted in patients with severe disabilities a lack of cerebral activity.

b) These findings highlighted a lack of cerebral activity in patients with severe disabilities.

3. a) This will avoid discharging into the atmosphere in 2020 around eight million tons of debris.

b) This will avoid discharging around eight million tons of debris into the atmosphere in 2020.

4. a) This makes it possible to read the gear sensor with increased precision.

b) This makes it possible to read with increased precision the gear sensor.

5. a) In the following sections, X and Y are detailed.
b) X and Y are detailed in the following sections.

Task 6
Typical mistakes
Correct any mistakes in the following sentences. The mistakes are all related to word order.
1. This leaves intact for at least six weeks the sample.
2. Many are the substances that are harmful to human beings.
3. This book shares with the previous one several aspects.
4. For several years with this system we have had problems.
5. The female chimpanzees immediately after giving birth are generally quite weak.
6. After the written examinations each student has between May and June an oral exam.
7. The presence in written English of long sentences can cause problems for the reader.
8. In English is not commonly found a sentence construction that does not reflect the following order: subject verb object.
9. In the USA farmers have inadvertently introduced into the environment several dangerous species of insects.
10. One way to avoid such behavior in adults is treatment before the age of 16 with a high dose of insulin.

Exercise 6 (Word Order)
1. This leaves **the sample intact** for at least six weeks.
2. **There are many substances** that are harmful to human beings.
3. This book shares **several aspects** with the previous one.
4. We have had problems with this system for several years. / For several years we have had problems with this system.
5. **Immediately after giving birth** the female chimpanzees are generally quite weak / … quite weak **immediately after giving birth** .
6. After the written examinations each student has **an oral exam** between May and June.
7. The presence **of long sentences** in written English can cause problems for the reader. 8. In English a sentence construction **is not commonly found** that does not re fl ect the following order: subject verb object.
9. **In the USA, farmers / Farmers in the USA** have inadvertently introduced several dangerous species of insects **into the environment** .
10. One way to avoid such behavior in adults is treatment **with a high dose of insulin** before the age of 16.

Unit 5.4: Punctuation

Commas should be used in the following situations:

1. To separate two dependent clauses. This is often the case with clauses introduced by *if, when, as soon as, after* etc.
2. To avoid initial confusion on the part of the reader. For example, in the NOT example it initially seems that the water boils the specimen.
3. After sentences that begin with an adverb that is designed to attract the reader's attention (e.g. *clearly, interestingly*) or a link word that indicates you are adding further information or talking about a consequence (e.g. *consequently, in addition*).

4. In non-defining relative clauses. *The house, which is old enough, belongs to my uncle.*
5. If you have a list more than two items use a comma before *and*. The comma highlights that the penultimate and last element are separate items.

When the specimen is **dry, remove** it from the recipient.

NOT - When the specimen is **dry remove** it from the recipient.

If the water **boils, the** specimen will be ruined.

NOT - If the water boils **the specimen** will be ruined.

Surprisingly, the results were not in agreement with any of the hypotheses. **Moreover,** in many cases they were the exact opposite of what had been expected.

NOT **- Surprisingly** the results were not in agreement with any of the hypotheses. **Moreover** in many cases they were the exact opposite of what had been expected.

The **Thames,** which runs through **London,** is England's longest river.

NOT - The Thames **which runs through London** is England's longest river.

There are three advantages of this: costs are lower, deadlines and other constraints are more easily **met, and** customers are generally happier.

NOT - There are three advantages of this: costs are lower, deadlines are more easily **met and** customers are generally happier.

Commas should be avoided or limited if the sentence contains:

1. Twenty words or more. Consider rearranging the sentence or writing two separate sentences.
2. A series of very short phrases all separated by commas. Consider rearranging the sentence into longer phrases with fewer commas.
3. A long a list of items, which itself contains subgroups. It is better to use semicolons to separate the various subgroups.
4. A series of nouns and the first and second noun are not related. Instead, begin a new sentence after the first noun, otherwise the reader will think that the nouns are all part of the same series.
5. In a defining relative clause. The man that is standing near the door is my brother.

YES

YES	**NO**
If the iodine solution does not turn to this colour when added to a **food, this** indicates that starch is not present in the food.	**If, when** the iodine solution is added to **food, it** does not turn this **colour, this** indicates that starch is not present in the food.
This application was developed specifically for this purpose. It can be used on most platform **s, f** or example XTC and B4M **E. It**	This application **, which** was developed specifically for this purpose **, can** be used on most platform **s f** or example XTC and B4M
can also be used with …	**E, it** can also be used with …
If Y is installed before **X, this** may cause damage.	Damage may be caused if X is installed **after, rather** than **before, the** installation of Y. If Y is installed **before, rather** than **after, installing Y, then** this may cause damage.

We used various sets of characters: A, B and **C; D**, E and **F; and** X, Y and Z.	We used various sets of characters: A, B and C, D, E and F and X, Y and Z.
Each row in the page represents an individual **record. The** information and the features provided enable the user to control, monitor and edit the records created.	Each row in the page represents an individual **record, the** information and the features provided enable the user to control, monitor and edit the records created.
The **student that** gets the top marks is awarded the prize.	The **student, that** gets the top marks is awarded the prize.

Exercise 1

Reduce the number of commas in the following sentences by changing the phrase round.

The specimens, each of which was cruciform, weighed 90–100 g..

= The specimens were cruciform and weighed 90–100 g.

1. This device, as is well known, will separate X from Y.
2. Let us strengthen, by means of the circuit of Fig. 3b, the example given in the previous subsection.
3. This book, which is aimed at non-native researchers, contains a series of exercises practising writing skills.
4. This paper, which is an amplified version of a paper presented at the Third Conference on Writing, is divided into five main parts.
5. The results of the survey, once they have been processed, will be used to make a full assessment of the advantages of such an approach.
6. Let us take into consideration, using the data given in Table 1, the most important parameters.

Exercise 2. Insert commas where needed. Do not change the order of the words.

X not Y was the most useful. = X, not Y, was the most useful.

1. Artists have always experimented with a variety of organic natural materials for use as paint binders and varnishes and as ingredients for mordants.
2. First he spoke about X and then about Y.
3. For breakfast I have yoghurt cornflakes and bacon and egg.
4. In direct inlet mass spectrometry solid or liquid samples are introduced into a glass cup.
5. It costs $2200000.
6. More and more Americans wait until the deadline to pay their bills.
7. The menu offered the usual choices of turkey lamb and chicken.
8. The paper is in three parts. Firstly we look into X. Secondly we discuss Y. Thirdly we investigate Z.

Exercise 3. Insert punctuation (including capitalization) into the following text which is part of an Introduction of an informal paper. Note that some sentences are very short.

The order in which we say or write something generally reflects the importance we want to give to each individual item in english we tend to put the subject first because by doing this the interlocutor immediately knows what the main topic is going to be we then need to insert the verb and then the object which is generally of secondary importance this may seem obvious it isnt in many languages the subject or a part of the verb may appear at the end of the sentence this fact would seem to indicate that we dont all have the same thought patterns and that for other nationalities it may not be important to immediately know the argument of the sentence. The result is that we as listeners or readers have certain expectations as to the order in which the words are going to appear if this order is not respected we may be thrown off the trail in much the same way foreign students when speaking tend to stress inappropriate words in a sentence highlighting words that for an english speaker would normally have no relevance the reason for this is that both english word order and english stress are strictly related to meaning in other languages this is not always the case the problem is of course that students tend to transfer their native word and stress into english.

Punctuation (8)

Exercise 1

1. As is well known, this device will separate X from Y.
2. Using the circuit of Fig. 3b, let us strengthen the example given in the previous subsection.
3. This book is aimed at non-native researchers. It contains a series of exercises practising writing skills.
4. This paper is an amplified version of a paper presented at the Third Conference on Writing, and is divided into five main parts.
5. Once the results of the survey have been processed, they will be used to make a full assessment of the advantages of such an approach.
6. Using the data given in Table 1 the most important parameters can be considered.

Exercise 2

The commas are marked with a hash (#).

1. Artists have always experimented with a variety of organic natural materials for use as paint binders and varnishes # and as ingredients for mordants.
2. First he spoke about X # and then about Y.
3. For breakfast I have yoghurt # cornflakes # and bacon and egg.
4. In direct inlet mass spectrometry # solid or liquid samples are introduced into a small glass cup.
5. It costs $2 # 200 # 000.
6. More and more # Americans wait until the deadline to pay their bills. (*more and more* has been interpreted as meaning *increasingly*).
7. The menu offered the usual choices of turkey # lamb and chicken.
8. The paper is in three parts. Firstly # we look into X. Secondly # we discuss Y. Thirdly # we investigate Z.

Exercise 3

NB there are other possible ways of punctuating these two paragraphs.

The order in which we say or write something generally reflects the importance we want to give to each individual item. In English we tend to put the subject first because by doing this the interlocutor immediately knows what the main topic is going to be. We then need to insert the verb; and then the object, which is generally of secondary importance. This may seem obvious. It isn’t. In many languages the subject or a part of the verb may appear at the end of the sentence. This fact would seem to indicate that we don’t all have the same thought patterns, and that for other nationalities it may not be important to immediately know the argument of the sentence.

The result is that we, as listeners or readers, have certain expectations as to the order in which the words are going to appear. If this order is not respected, we may be thrown off the trail. In much the same way foreign students, when speaking, tend to stress inappropriate words in a sentence, highlighting words that for an English speaker would normally have no relevance. The reason for this is that both English word order and English stress are strictly related to meaning. In other languages this is not always the case. The problem is of course that students tend to transfer their native word and stress into English.

Unit 5.5: Ambiguity

Below are four grammatical areas that typically cause ambiguity.

1. THE DEFINITE ARTICLE

I love English = the language

I love **the** English = the people

Italian PhD students are intelligent. = all Italian PhD students

The English PhD students are intelligent. = just those English students that I know or that I have been talking about

DO NOT USE the IN THESE CASES:

- When talking about general concepts.

The Languages are useful.

The User guides are often written too quickly.

- When a number is associated with figure, table, sections etc, and with percentages *The* Fig. 2. *The* Section 3. *The* Point 2. In *The* Step 2. *The* 42%.

- Before names of people, countries, languages

The Smithson's article. *The* Italy is a beautiful country. *The* English is not an easy language.

general (G) vs specific (S)

Differences in opinions on this subject are very common. **G**

The main differences are: X, Y and Z. **S**

Progress is both inevitable and desirable. **G**

The progress we have made so far has been very slow. **S**

Use THE in these cases

1) For something you have already mentioned.

This paper presents ***a new system*** for modeling 4D maps. **The system** is based on …

2) noun ***of*** noun (This 'rule' works in 95% of cases)

the university **of** Pisa

the history **of** Italy

2. PROBLEMS WITH PRONOUNS

Avoid using pronouns: *it, they, this, that* and *one.* Also avoid *The former* .. *The latter* The problem is that you are forcing the reader to try and understand what these pronouns refer to, or to read backwards to find out what *the former* and *the latter* refer to. It may be obvious to you, but it will not be for the reader.

Instead, repeat the word that these pronouns refer to

I like bread and pasta.

I eat **it** for breakfast. I eat **bread** for breakfast.

I eat **the former** for breakfast. I eat **bread** for breakfast.

3. RELATIVE CLAUSES

There is a big difference between *who/which* and *that*.

* who(people)/which (things): for additional information

* that (people + things): to define / distinguish

1) My brother, **who** lives in Paris, is a researcher

= I only have one brother. The fact that he lives in Paris is just extra information.

2) My brother **that** lives in Paris is a researcher

= I have more than one brother. I use Paris to define which brother I am talking about

The sentence below is ambiguous:

Correct the sentences below which contain grammatical mistakes mean:
It could mean that you have to correct all (1) the sentences, or it could mean you only need to correct those sentences that contain grammatical mistakes.
To disambiguate:
1) Correct the sentences below, **all of which** contain grammatical mistakes: 2)
Correct **only** those sentences below **that** contain grammatical mistakes:

4. **GERUND**

The gerund is often ambiguous because it does not require a subject. Thus it is difficult for the reader to know what the gerund refers to.

*Inflation will go down **reducing** taxes.*

Does this the above sentence mean inflation will go down: a) **before**
taxes are reduced b) **after** taxes have been reduced
First taxes will be reduced and then inflation will go down. = Inflation will go down **by reducing** taxes.
Inflation will go down first and then taxes will go down. = Inflation will go down **thus reducing** taxes.

THUS + gerund = and the consequence is
BY + gerund = this how it will happen

EXERCISES

1. **Insert *the* where necessary.**

A man collected (1) ______ antique clocks - see (2) ______ figure below. He spent (3) ______ hours both carrying out (4) ______ research into (5) ______ history of (6) ______ clocks, and collecting (7) ______ information on them. One morning he wound up two of (8) ______ most valuable ones and then settled down to a full English breakfast. One of (9) ______ clocks went two minutes per hour too slow, and (10) ______ other one went one minute per hour too fast. When he had finished his breakfast he looked at (11) ______ clocks:
(12) ______ faster one was exactly 60 minutes ahead of (13) ______ other. How long had (14) ______ clocks been ticking? (15) ______ Figure 1: Antique clocks.

2. **Insert *the* where necessary.**

It is well known that __ 1 women are more intelligent than __ 2 men. Even __ 3 women with absolutely no education and who live in total poverty tend to be more intelligent than __ 4 men, even __ 5 men who have been to __ 6 university. Of course there are always __ . 7 exceptions. In our case __ 8 exceptions are __ 9 women in this class. __ 10 women in this class have exceptionally low levels of __ 11 intelligence. __ 12 PhD students tend to be above average intelligence, indeed __ 13 female PhD students from most parts of the world who study here in Italy are extremely intelligent. Despite this, __ 14 female PhD students are here with us today show few or no signs of __ 15 intelligence. On the other hand __ 16 intelligence of __ 17 men in this class is supersonic, particularly __ 18 English teacher, although __ 19 English teachers normally don't understand anything. __ 20 end.

3. **Disambiguate the following sentences.**

1. To take our children to the party we all used our cars and then we left them there.
2. This should help to prevent piracy of CDs by Americans.
3. We investigated lions and tigers and elephants that are on the endangered species list.
4. We surveyed various immigrants: Tunisians, Moroccans and Senegalese who had entered the country before 2015.

5. After opening the program, the email can be sent to multiple recipients.
6. The fire broke out in the forest bordering the river but was extinguished before any major damage could be done by the local fi re service.
7. Instructions for use: These articles are poisonous. If there are children in the house, keep them locked up safely.
8. A full range of games were presented for the men with no balls (e.g. darts, diving, bungee jumping).
9. Being over 500 years old, Dr. Alvarez handled the painting with great care.
10. Preserved in a frozen state, Professor Chang examined the samples.

4. Relative clauses. Disambiguate / Correct only those sentences that are ambiguous or which need commas inserting.

1. We rejected the samples which were contaminated.
2. Our findings which can be generalized to many other situations can be found in Sect 1.
3. Our findings are in accordance with their findings which all show high values.
4. The component which we wanted to use was unfortunately damaged.

5. **Decide in which of these sentences the use of the –ing form is either potentially ambiguous or simply incorrect.**

1. Yoga prevents a build-up of uncomfortable physical symptoms, ***enabling*** you to relax more easily.
2. These impulses move from one nerve to another, ***dispatching*** messages to the brain.
3. Doctors ***working*** in the US say that some illnesses connected with the heart may be cured by Biofeedback.
4. ***Watching*** TV in English, foreign students have improved their listening skills.
5. ***Watching*** TV for more than four hours a day can cause brain damage.
6. This is done ***clicking*** on the mouse.
7. Taxes will be lowered ***creating*** more jobs.
8. ***Reviewing*** the data, always make sure you have not left anything out.
9. I learned English ***helping*** my professor to write papers.
10. ***By eating*** vegetables alone, we cannot understand how some vegans do not have a de fi ciency in this vitamin.

6. Rewrite the parts in italics using by, thus or when, + -ing.

1. ***If we cancel*** world debt, trade will increase.
2. ***Every time you use*** this apparatus, ensure you wear sterile gloves.
3. They stopped using sprays ***and this reduced*** the pollution levels.
4. The price was lowered ***and consequently sales increased***.
5. We can do this ***in the following manner: reinforce*** Y.

Unit 5.6: Style Generic pronouns

Do not use *he, him, his* if you are referring to a generic person.

*The user can use **his** mouse if **he** wants.*

The user can use **his/her** mouse if **he/she** wants. (OK, but unnecessary and clumsy) The **user** can use **their** mouse if **they** want. (Seems ungrammatical but is now correct)

Users can use **their** mouse if **they** want. (This solution is the best) **Plurals**

1) To form the plural of acronyms and decades simply add an s (no apostrophe is required though it is commonly and mistakenly used). one CD, two CDs the 1990s

2) Do not add an *s* to abbreviated forms of measurements. No full stop (.) is required after such abbreviations

5 kg (5 kilograms), 100 m (100 meters), 6 h (6 hours), 8 min (eight minutes) 3) Do not put an *s* on adjectives and words that function as adjectives.

*Our other**s** results were unclear.* = Our **other** results were unclear.

These results were different from the **others**. ('others' is a noun here) *The samples were incubated for a **three months** period.*

The samples were incubated for a **three-month** period.

The samples were incubated for **three months**.

Numbers and abbreviations

1) Never begin a sentence with a number in figures or an abbreviation such as Fig., Tab., App.

***20,000** people came to the convention* **Twenty thousand** people ...

The convention hosted **20,000** people

***Fig. 2** shows the values*

Figure 2 shows the values

The values are shown in **Fig. 2**

2) Use written forms for the numbers from one to nine. However, check with the journal where you want to publish your paper and see what their style convention is for this.

*There were **9** people at the meeting.*

There were **nine** people at the meeting.

The above rule does not apply to numbers that:

- come before an abbreviation for a measurement eg 3 ml
- come after Figure, Table, Appendix etc eg Fig. 2, Table 4

3) Use a full stop (.) for decimal numbers, and a comma (,) for whole numbers.

*Not! The convention hosted **20.000** people*

The convention hosted **20,000** people

Acronyms

The first time you want to use an acronym, write its full form first and then the acronyms in parentheses.

*Not! This policy is called **FIFO** (first in first out).*

This policy is called First In First Out (**FIFO**).

Apostrophes

1) Avoid contracted forms in formal papers. However, some journals do accept contracted forms – so check with your journal of publication.

Let's assume that ... = Let us assume that ...

This doesn't happen if = This does not happen

2) Do not use with acronyms and dates. Dates should always be four digits (eg. 1940s rather than '40s).

CD's became common in the late 1980's. = CDs became common in the late 1980s. 3) Apostrophes may be needed with symbols or letters to show plurals.

Three **Ω's** are required.

There are two c's in Lucca.

Genitive

Generally only indicates human possession (including nations, institutes, companies etc), and also animals or personified objects

*Not! The **PC's** screen.*

The **user's** PC.

The European Space **Agency's** Giotto probe was reactivated in 1992.

Italy's gold reserves

Not! Mathematics' rules. = The rules of mathematics.

*Not! Malari**a's** effects.* = The effects of malaria.

But where do I put the apostrophe? And do I use 'the'?

Not! The **Homer Simpson's brain**

Homer Simpso**n's** brain. = the brain of Homer Simpso**n**

Tes**s's** dilemma. = the dilemma of Tes**s**

Bar**t** and Home**r's** paper = the paper of Bart and Homer

The Simpson**s'** house. = the house of the Simpson**s**

University

The University of Pisa is organizing a series of seminars on Scientific English. university / organization point of view, formal

*Not! I studied mathematics at **Pisa's** University.*

I studied mathematics at **Pisa** University. student point of view, less formal

*Not! **Pisa's** three universities are world famous.*

The three universities **in Pisa** are world famous.

Genitive with time periods

The genitive can be used with time periods.

I'm taking three week**s'** vacation next month. = three week**s** of vacation But not when these are preceded by *a / the*.

*Not! He's on a three week**s**' vacation.*

He's on a 3-wee**k** vacation. **Best solution for Genitive**

Don't write anything that you are not 100% sure is correct.

If in doubt, check with Google (Advanced search, domains: .ac, .edu)

Unit 6.1: Claims, Reasons, Warrants and Evidence

The terms 'claim' and 'warrant' come from the Stephen Toulmin's analysis of how arguments work.

Toulmin's analysis broke arguments down into six elements:

Data: The facts or evidence used to prove the argument

Claim: The statement being argued (a thesis)

Warrants: The general, hypothetical (and often implicit) logical statements that serve as bridges between the claim and the data.

Qualifiers: Statements that limit the strength of the argument or statements that propose the conditions under which the argument is true.
Rebuttals: Statements designed to defend the claim by disproving counter-arguments.
Backing: Statements that serve to support the warrants (i.e., arguments that don't necessarily prove the main point being argued, but which do prove the warrants are true.) Source: Revised from Wheeler (2015).

A claim is an assertion that is being argued. It may be a factual claim about the world, a logical claim such as a mathematical statement, about judging something as morally or aesthetically good or bad, or it may be a practical claim about what should be done in terms of government policy. The first of these is depends on empirical evidence, the second on analytical proof, the third on value judgements, and the fourth on a combination of the first and third.

Some authors talk about 'reasons' or 'evidence' instead of data. It may be useful to distinguish between reasons and evidence. A 'reason' is either an appeal to logic, as in a mathematical proof, or an appeal to values, as in an ethical or aesthetic judgement.
'Evidence' involves an appeal to the facts i.e. what is (or what appears to be) the case in the real world. A 'warrant' is neither a reason nor a piece of evidence. Instead it is a principle which explains why the reason or evidence is relevant in justifying the claim.

For example, suppose someone argues that:
Welfare payments are too high (claim) because they are a disincentive to work (data/evidence).

- Note that the claim is a practical claim.
- The 'warrant' which connects the 'data' or 'evidence' to the claim is implicit, not explicit. Here the warrant is something like *"everybody who can work, should work"*. We have to deduce what the warrant is: it is an unwritten assumption.
- Note also that the 'data' or 'evidence' in this case is really not a piece of evidence at all but an assertion. A stronger argument would provide <u>substantive</u> evidence that they are a disincentive to work e.g. the results of a labour market study.
- <u>This is where citation of sources comes into play</u>. Suppose the argument is:

Welfare payments are too high because they are a disincentive to work (Jones, 2014).

- This is a much stronger argument because the evidence offered is stronger.

Let us expand the argument:
Welfare payments are too high (claim) because they are a disincentive to work (Jones, 2014). (data/evidence) It is true that Jones' study was criticised by Green (2015) (qualifier) but the principal findings remain unchallenged (rebuttal). It is vital that as many people who can work should work. (warrant) A study by Brown (2012) showed that the children of lone parents who work do better at school. (backing)

The fact that the argument has all these features does NOT prove that it is correct. Any element of the above argument could be challenged by a critic.

1. Read the argument below. Label the six parts of the argument according to

Toulmin' scheme (claim, data/evidence, qualifier, warrant, backing, rebuttal).

Welfare payments are too low because many families are living below the poverty line (Black 2014). It is true that there is controversy about where the poverty line should be drawn (White 2015) but the increase in the number of people using foodbanks suggests that their poverty is very real (Trussell Trust, 2015). It is wrong for children to suffer poverty through no fault of their own. It is also counter-productive, as badly-fed children do badly at school (Grey 2012).

What do we mean by evidence (or the reason) for a claim?

The answer to this will depend on the type of claim being made and on the discipline. For a factual claim in the natural sciences, the 'evidence' is likely to be an experimental result. For a factual claim in History, it is likely to be the contents of a source document or documents. For an aesthetic claim in Literature the 'reason' may be a rhetorical appeal. For an analytical claim in Mathematics the 'reason' may be a logical proof.

How can we classify types of evidence?

Although the disciplines differ, there is generally a distinction drawn between primary evidence and secondary evidence. For example, in Mathematics a primary result might be one arrived at by the author, whereas a secondary result is one already published by another researcher. In History a primary source is one contemporary with the period being studied, whereas a secondary source is one published after the period being studied (usually a work by another historian). In the hard sciences a primary piece of research is one based on original observations by the author. Research already published by other authors counts as a secondary source of evidence.

2. Based on the information above, label the following statements as true or false:

a) Secondary evidence normally means evidence that has been processed or published by someone else.
b) A factual claim in History is normally supported by a logical proof.
c) Citations are important in strengthening your argument.
d) A rebuttal is an argument which invalidates the claim being made.
e) Backing refers to statements which support the warrant.
f) A warrant is a piece of evidence which supports a claim.
g) A claim is always a factual statement.

3. Read the abstract and the related text below.

a) Look for examples of Toulmin's six features of an argument and highlight them if you find them.
b) Look for examples of primary and secondary evidence and highlight them.

Abstract

My argument in this paper is that Caucasia has become an area of contention, like much of post-Soviet Eurasia, between the East and West, particularly between Russia's Caucasian policy, which revolves around its long-term interest in re-establishing its regional hegemony in the so-called Near Abroad, and the United States' grander ambition for global hegemony. The South Caucasus has provided the first opportunity for Russia to demonstrate its will to prevent the United States, NATO, and the European Community from penetrating the southern tier of the former USSR. Russia's move is not a program of imperial control, but rather a determined effort to contain or even roll back the influence of other powers, most importantly, the United States and NATO in the regions closest to Russia's borders. The "southern tier" of the former Soviet Union – Caucasia and Central Asia – contains the most vulnerable regions in which other powers might intervene, and it is here where Russia will test its new policies. Up until August 2008 it used primarily "soft power" vigorously to prevent other powers from increasing their influence in the region. In August it demonstrated it was prepared, when pushed, to use "hard power." The Russo–Georgian War was a watershed in East–West relations with a more assertive Russia willing to take on its more powerful competitors.

5. Armenia: Russia's Israel

Armenia is dependent on Russia both for security and for energy. Yet it has tried at times to travel its own road. At NATO's Prague summit in 2002, the idea of Individual Partnership Action Plan (IPAP) were developed for countries from the South Caucasus and Central Asia, setting out practical steps by which they could converge with NATO standards. Armenia flirted with NATO membership, and in June 2003, played host to NATO's so-called "Cooperative Best Effort 03" military exercise, which was hailed as a success. In February 2004, Erevan sent peacekeeping troops to join the international presence in Kosovo. At a meeting in Brussels in early June 10, 2005, then Armenia's defense minister, Serzh Sargsian, and NATO secretary general, Jaap de Hoop Scheffer, came to an agreement that many at the time saw as proof of a new strategic shift by Armenia towards the West. Sargsian formally presented de Hoop Scheffer with his country's so-called Individual Partnership Action Plan (IPAP) as well as a personal letter from President Kocharian. This was a genuine breakthrough in relations between Armenia and NATO, which had at times been very cool.

At the time Armenia experienced a slight cooling of relations with Russia, and with the American push into the South Caucasus the Armenians faced a difficult choice. Overtures from the West and the NATO aspirations of neighboring Georgia and Azerbaijan presented a future of potential isolation in the region for Armenia. When President Bush visited Georgia in May 2005, he made it clear that he welcomed the idea of Georgia joining the alliance. Armenian foreign minister Vartan Oskanian much earlier had expressed fears that "if it turns out that Georgia and Azerbaijan eventually become members of NATO and Armenia does not, then obviously this will lead to new lines of division in the Caucasus." Later Sargsian stated, "After we set ourselves the goal of joining the European family, we must have close relations with NATO and be responsible for guaranteeing security in Europe." Caught between its membership of the Russian-led Collective Security Pact of the Commonwealth of Independent States and its interest in some relationship with NATO, the Armenian leaders believed that Armenia could cooperate with both alliances "until cooperation with one organization is in conflict with cooperation with the other." But that possibility was not very long-lived.

Membership in NATO comes with costs: revision of many of its military structures and democratic civilian control over the military. NATO in many ways now identifies itself as a political as much as a military organization, meaning that post-Soviet states would have to implement democratic reforms to achieve a closer relationship with the organization. NATO has historically been uninterested in the security problems of the South Caucasus, and this view was reinforced by Secretary General Jaap de Hoop Scheffer in his statement that NATO is content to leave the Karabakh problem to other international mediators. On the other hand, the United States has been most energetic in promoting Caucasian accession to NATO.

The Putin administration feared that the balance of forces in the South Caucasus was shifting away from Russia toward NATO. Russian troops left their Georgian military bases. Robert Simmons, the special representative of NATO to the South Caucasus and Asia, stated that if Armenia did not want Russian military bases to remain on its territory, NATO would be happy to assist. Russia indicated its irritation with the "increased attention that NATO was paying to the South Caucasus and Central Asia." Russian analysts were concerned that the United States is making a major effort to pull Armenia away from its alliance with Russia.[12]

While some Russian analysts suggested that Moscow would improve its position in the Caucasus by developing a closer relationship with Baku, Armenians were heartened by the unequivocal support that liberal Westernizers in Russia gave to the alliance with Armenia. Armenia is Russia's Israel in the Caucasus. Aleksei Arbatov, head of the Russian Academy of Sciences Institute for the World Economy and International Relations, for example, told the newspaper *Trud*, "Armenia is our only classic military-political ally.... Armenia will not survive without Russia and, without Armenia, Russia will lose all its important positions in the Caucasus.... Even though Armenia is a small country, it is our forepost in the South Caucasus. I would say that Armenia is more important to us than Israel is to the Americans."[13] Other commentators, however, have expressed Armenian frustration with the inaction of Russian authorities when Armenians in Russia are threatened. Xenophobic extremism sometimes targets darker-skinned immigrants from the Caucasus and Central Asia, and Russian authorities often fail to solve the vast majority of those crimes. Such acts of hatred and indifference toward such crimes by officials have contributed to the erosion of the traditionally strong pro-Russian sentiment in Armenia.

The United States and the North Atlantic Treaty Organization (NATO) were for a time increasingly popular in Armenia, according to a survey by the Armenian Center for National and International Studies (ACNIS), just as Erevan's relations continue to expand with both. Sixty-two percent thought that the U.S. plays a positive role in Armenia's economic development, 60 percent in provision of security and 56 percent in the country's democratic development. Attitudes toward NATO are related to feelings about the United States. US Ambassador to Armenia, John Evans, benefited from his public declaration (which he was later forced to rescind) that the massacres and deportations of 1915 had been a genocide.[14] While Armenians grew more supportive of NATO membership, they remained split on the issue. The poll found close to 35 percent of respondents in support of membership, 34 percent opposed and the remaining 31 percent undecided. A poll held in October 2005 found that 29 percent of respondents preferred NATO as Armenia's main security partner. A majority of membership supporters felt that "NATO is the most effective system for ensuring security" (43 percent) and that it would be expedient for all Caucasus states to be part of a common security system (34). Respondents opposed to NATO membership argued for a closer military alliance with Russia (53) and believed that Armenia's NATO integration is hindered by hostile policies of Turkey, an alliance member (25).

With the withdrawal of Russian bases from Georgia, there was some pressure to remove the Russian base in Armenia, the last major installation that Moscow has in the South Caucasus (not counting its presence in Abkhazia and South Ossetia). Addressing a NATO-sponsored conference in Erevan in 2005, Defense Minister Sargsian said the presence of Russian bases in Armenia has no relation to the Karabakh conflict and Armenian–Azeri relations. Rather, Russian troops are in Armenia at the request of Armenia and "are a component of our national security and their presence is contingent on Armenia's relations with Turkey which is still hostile to us." Sargsian said Armenia would agree to radically reform its defense system given the final regulation of the Karabakh conflict and given Azerbaijan's accord to carry out similar reforms under the supervision of international inspectors." Yet in April 2006, President Kocharian clarified the Armenian position. "Armenia is not going to join NATO," he told the former Communist newspaper, *Golos Armenii*. He responded to the remarks of Armenian Speaker of the Parliament Artur Baghdassaryan's statement to the *Frankfurter Allgemaine* that "EU and NATO are the future of Armenia" and "Russia should not be on the way to the Europe." Kocharian stated that "Armenia's foreign policy line remains unchanged. Within the NATO-Armenia Individual Partnership Action Plan (IPAP) our country is expanding the cooperation with the North-Atlantic Alliance, as a key European security organization. We expect effective cooperation, especially in reform of the Armed Forces and peacekeeping. However, Armenia is not going to join NATO. Participation in the Collective Security Treaty Organization (CSTO) and the high level of military and technical cooperation with Russia properly solve security issues."

While Armenia is ready to engage in closer cooperation with the EU within the European Neighborhood Policy (ENP), neither NATO nor the European Union is in Armenia's future. "As the Armenian newspaper *Aravot* [Morning] put it, 'If Armenia's president declares tomorrow that we have an intention to join NATO, then the next day Russia will avenge our audacity and encourage an Azerbaijani attack on Karabakh by moral and military means,' writes 'Aravot.' "At this point there seem to be no guarantees that the West would provide us with sufficient resources to cope with those moral and military dangers. It appears that our goal seems to be the creation of such guarantees in a restrained and calm manner, without drastic statements, without a Saakashvili-style bravado. Unfortunately, our leadership is moving in the exactly opposite direction, further deepening our dependence on Russia." (June 2006) Long before the Russo–Georgian War of August 2008, Armenians, perhaps reluctantly, made a pragmatic choice: once straddling West and East became impossible, they sided with the Russians.

[12] Professor at the Russian Foreign Ministry Diplomatic Academy Igor Panarin, for example, wrote in 2005 that the trend towards consolidation of the Armenian–American relations can hamper the development of the Armenian–Russian cooperation. "Russia is worried by the recent visit of the Armenian defense minister to the USA under the initiative of the American ambassador," said Panarin, who called significant the fact that "the current Armenian president has not officially visited the United States yet." The United States, he went on, has increased its activities in Armenia since the start of construction of the Baku-Tbilisi-Ceyhan pipeline. "Transnational British–American capital has started taking root actively in the region, and its task is to force Russia out of the region," said Panarin. This effort is led by the US ambassador in Armenia, John Evans, who introduced a package of documents to prepare elections in 2007–2008. The US Congress has already adopted financial proposals worth $6 million for Armenia. "The country, aiming to strengthen its positions in Transcaucasus, is trying to destabilize the political situation in Armenia." Panarin went on to note, "The new building of the US Embassy in Erevan is one of the biggest in the world.... The fact that instead of the 40 marines that are able to secure the building, 400 are planned to be stationed there." Such a force "can easily destabilize the situation in Erevan if necessary."

[13] *Trud*, no. 52, March 26, 2005.

[14] Evans was awarded the Christian A. Herter award by the American Foreign Service association for "constructive dissent" after making his statement, but under pressure from the State Department, the reward was later taken back.

Source: Suny (2010).

Unit 6.2: Plagiarism and Paraphrasing

What is plagiarism?

Plagiarism is a common problem in academic life. Sometimes it occurs accidentally, sometimes deliberately. One definition of the term is:

> to use another person's idea or a part of their work and pretend that it is your own (Cambridge University Press, 2015).

Note that plagiarism is <u>not restricted</u> to quoting another person and pretending that their words are your own. Plagiarism can still occur if you take another person's ideas, put them into different words, and pass them off as your own. <u>The first requirement for avoiding plagiarism is to acknowledge your sources</u>.

The second requirement is to highlight direct (word-for-word) quotations. This means that you should put a direct quotation in quotation marks, or else indent it so that it stands out from the paragraph. You should also give an in-text reference (see the example above).

The third requirement is to paraphrase effectively. To paraphrase is to quote someone else's work indirectly, by putting it into your own words. Poor paraphrasing (where most of the original words remain) may give rise to accusations of plagiarism, mainly because the author is not admitting to the fact that the words are not their own. If you cannot paraphrase a source, you should openly use a direct quotation. Some students find it difficult to express a source in different words, especially if they are non-native speakers. Another key problem is that some students think that indirect quotations do not require an in-text reference. This is false. Always cite your sources.

How can I paraphrase effectively?

Paraphrasing is not always easy. You can try the following techniques:

1) Make notes on a source, and then come back to the notes later. Write something based on the notes with a fresh mind.
2) Change the order of the phrases or sentences in the original.
3) Choose synonyms for words in the original.
4) Use a thesaurus to help you find synonyms.
5) Merge sentences that were separate in the original.
6) Split sentences that were one in the original.
7) Edit out irrelevant information.

Paraphrasing is most difficult when there is technical information involved as often there will be no good synonym for a technical term.

What is NOT plagiarism?

Using generic (non-specific) phrases such as "The evidence clearly shows that…" is not plagiarism. Hence tools such as academic phrasebanks (see Morley, 2015) are not encouraging plagiarism.

1. **Discuss in pairs the following questions:**
   a) Have you come across instances of plagiarism by students or by academics?
   b) Is it a big problem at your university?
   c) Is it a big problem in your country?
   d) How can it be prevented?
   e) Is it more difficult for non-native speakers to avoid plagiarism?
2. **Read text A below:**
   Text A

The debate on the preservation of monuments crystallises many of the key political issues in St Petersburg: the attempts of private property owners and institutional lessees to exercise their tenuous legal rights in the face of pressure from commercial and political power groups (and usually the two work in concert); the collapse of old certainties about what the appropriate values in city planning should now be; the attempt to reconcile the urgent need to renew the city's infrastructure and especially to mitigate its formidable traffic and housing problems with the demands imposed by the status of a UNESCO World Heritage Site; and the search for an authoritative version of the past now that the old Soviet teleologies have been largely discredited. In many respects also, the debate has become a test case for civil society – anti-modernisation and pro-ecology groups encourage inhabitants of St Petersburg to know, and to use, their rights.[9] Significant, although compromised, democratic measures, such as public hearings, have been introduced in order to try and reduce tensions.[10] It is currently easier to mobilise the settled, long-term inhabitants of the city over issues such as loss of green space through *uplotnenie zastroiki* (infill building and building in city courtyards) than over almost any other issue of the day. To some extent, debates on architecture have become a substitute for politics more generally (saying you don't like new building is a 'safe' way of saying that you don't care for current policy generally). But it would over-simplify to ignore the aesthetic and sentimental considerations that many of those hostile to new building also aim to express, and the fact that what are seen as cavalier attitudes to heritage have increased opposition to the political establishment. Those expressing disgust at new building are not going through the motions in order to adopt an oppositional stance; they are genuinely concerned about the fate of the city they live in.

Source: Kelly (2010).

3. **Read texts B and C below.**
   a) Which is the better paraphrase?
   b) Why is it better?
   c) What techniques does it use?

Text B

Arguments about the conservation of monuments in St. Petersburg highlight important political questions in the city. One is the struggle between property owners and powerful commercial and official interests. A second is the conflict over priorities in city planning, between preservation of the city's world-class heritage and meeting housing needs and solving traffic problems, aggravated by uncertainty about how to deal with the city's past since the collapse of the Soviet Union. A third is whether civil society can mobilise effectively to exert a democratic influence on public policy. It is tempting to see architectural debates as a replacement for normal politics, but this would be to overlook the very real feelings of those who are active in opposing new schemes.

Text C

The debate about preserving monuments in St. Petersburg exemplifies many of the important political issues in the city: the attempts of private property owners to exercise their legal rights in the face of pressure from the commercially and politically powerful (who tend to work together); the collapse of old values; the attempt to reconcile renewal of infrastructure for traffic and housing purposes with meeting the needs of a World Heritage Site; and the search for a new post-Soviet version of history. The debate has become a test case for civil society as conservationists and ecologists encourage citizens to use their rights. Some democratization has occurred and it is easier to mobilise citizens about conservation than about other issues. Debates about architecture have partly been substituted for normal politics, though this over-simplifies the aesthetic and emotional considerations of those disgusted by new building, and the link between opposition to the establishment and the perception that it has cavalier attitudes. Opponents of new building are not just going through the motions but genuinely care about the city in which they live.

4. Read text D below.

a) Write your own paraphrase of text D.
b) Swap paraphrases with your neighbour. Discuss how effective they are.

Text D

Of course, some support for new building exists. Architects feel constrained by the idea of a 'museum city' in much the same way as their counterparts in other major European cities (Paris and London come to mind); people in banks and companies want their workplaces reconstructed in the anonymous style of the Fourth Business International; members of the lay public often want to live in new buildings, even if they would rather look at old ones; everyone admits that much of the pre-revolutionary fabric of the city needs to be 'conserved' (a euphemistic way of saying, stopped from falling down). But there is a startling similarity in the modes of expression used. All participants in the debate voice commitment to the beauty and historical importance of St Petersburg. However, the sense of what, in practical terms, this signifies varies considerably from group to group. The discussion that follows is intended to place this consensus and conflict in historical perspective.

Source: Kelly (2010).

Unit 6.3: Language Functions and Academic Phrases

1. Eleven language functions

John Morley (2015) has identified eleven language functions which are commonly used in academic writing, and the phrases used to carry out those functions.

No.	Function	Further detail	Example
1	Being critical	Making positive or negative comments about the work of other researchers	Previous studies of X have not dealt with…
2	Being cautious	Hedging your claim by phrasing it in tentative language, because you are not completely confident	A possible explanation is that these frequent storms are a result of climate change.
3	Classifying and listing	Explaining what categories exist and which members belong to them	There are two main types of X: X1 and X2.
4	Compare and contrast	Examining the similarities and differences between two things	X differs from Y in a number of important ways.
5	Defining terms	Giving definitions or meanings	Science is the systematic study of the structure and behaviour of the physical and natural world through observation and experiment.
6	Describing trends	Describing patterns of change in data over time	Gas production reached a new low in 1990.
7	Describing quantities	Writing about numeric data	The response rate was 60% at six months and 56% at 12 months.
8	Explaining causality	Writing about cause and effect	Around 200,000 people a year become deaf because of a lack of iodine.
9	Giving examples as support	Identifying cases which illustrate the point	A notable example of X is…
10	Signalling transition	Telling the reader that you are about to begin a new topic	Having defined what is meant by X, I will now move on to discuss ...
11	Writing about the past	Writing about past events and placing them in chronological order	Following World War I, Fleming actively searched for antibacterial agents.

Source: Based on Morley (2015).

2. **Match the phrase (1-20) with the function (a-k). In some cases more than one answer is possible.**
    1. X found that of 2,500 abortions, 58% were in young women aged 15-24, of whom 62% were…
    2. Over the past century…
    3. In the section that follows, it will be argued that…
    4. Previous studies of X have not dealt with…
    5. There is some evidence to suggest that…
    6. The theory distinguishes two different types of X, i.e. X1 and X2.
    7. Smith (2001) uses the term ‘fluency’ to refer to…
    8. X differs from Y in a number of important ways.
    9. A university is an institution where knowledge is produced and passed on to others.
    10. Oil production peaked in 1985.
    11. Approximately half of those surveyed did not comment on…
    12. Both X and Y share a number of key features.
    13. This chapter describes and discusses the methods used in this investigation.
    14. The key problem with this explanation is that…
    15. In the 1950s, Gunnar Myrdal pointed to some of the ways in which…
    16. The report fails to acknowledge the potential impact of…
    17. The rate of Z is projected to fall after 2020.
    18. Whereas oral societies tend to be concerned with the present, literate societies have a very definite awareness of the past.
    19. One reason why Xs have declined is that…
    20. Pavlov found that if some other stimulus, for example the ringing of a bell…

    a. Defining terms
    b. Writing about the past
    c. Compare and contrast
    d. Giving examples
    e. Explaining causality
    f. Classifying and listing
    g. Being critical
    h. Signalling transition
    i. Describing trends
    j. Being cautious
    k. Describing quantities

Source: Based on Morley (2015).

3. **Read the text below. Use the table of language functions from section 1.**
    a. Look for examples of the type of language functions described in section 1.
    b. Highlight the phrases used.
    c. Which language functions are the most common in this text?
    d. Suggest the reasons for your answer to c).

6. Azerbaijan: betwixt and between

Baku has been highly suspicious of Russian aims in the Caucasus. Its concerns center, not only on resolving the conflict in Karabakh, but on the economics of oil. Azerbaijan, Georgia, and the United States have built their own oil pipeline through Georgia and Turkey to the Mediterranean and are in the process of completing a gas pipeline as well. Russia would prefer controlling the supply of oil from the former USSR and does what it can to hinder alternative sources. But its oil wealth gives Azerbaijan room to play in global politics that is not available to Armenia, which is more vulnerable geopolitically and less rich in natural resources. It is said that what oil is to Azerbaijan, the Armenian diaspora, particularly Armenians in America, are to Armenia, a powerful incentive to aid Armenia. But the good will of potential voters, while hardly negligible, does not always trump the oil card.

Azerbaijan considered NATO membership, but its impact on the resolution of the Karabakh conflict was not clear. In February 2006, on a visit to Baku, Putin indicated that he was interested in mediating discussions between the Armenian president and Aliev on the Karabakh problem. Resolving this issue would provide Putin with the clearest sign that Russia plays an irenic role in the region and has the political capital to bring warring parties together. Since the ceasefire of 1994, negotiated by the Russians, neither side had moved very much. The Armenians occupy a large part of Azerbaijani territory outside of Karabakh and have turned tens of thousands of Azerbaijanis into internally displaced persons. Since the death of Heidar Aliev, the Azerbaijani leadership has had neither the political will nor popular support to make concessions on Karabakh. Ilham Aliev repeatedly told his nation that Azerbaijan could launch a new war in Karabakh: "At any moment we must be able to liberate our territories by military means. To achieve this we have everything." Aliev predicted that Azerbaijan would soon become an economically strong state, while its military "superiority" would increase further. "Under these circumstances we cannot react positively to those calling us to compromise."[15] Armenians have watched warily as Azerbaijan has increased its military spending to more than $217 million, buying more tanks, artillery, and aircraft, and solidifying its relations with Russia.

Defense Minister General Safar Abiyev spoke a few years ago in a particularly provocative manner: "Armenia must always remember that what Azerbaijan accepted yesterday will not be accepted today and tomorrow. Azerbaijan will not want to have a separated state, meaning Nakhichevan, cut from the mainland Azerbaijan. This issue will be raised tomorrow." Asked if the Azeri army is ready "to go to Yerevan," the general answered, "We can go even farther." "The Armenian state was created on the occupied Azeri lands with the area of 29,000 square kilometers."[16] The Azerbaijani Defense Ministry spokesman Col. Ramiz Melikov was even more extreme: "In the next 25–30 years there will be no Armenian state in the South Caucasus. This nation has been a nuisance for its neighbors and has no right to live in this region. Present-day Armenia was built on historical Azerbaijani lands. I believe that in 25–30 years these territories will once again come under Azerbaijan's jurisdiction."[17] An elaborate coffee table book was published in Azerbaijan showing the monuments of "Western Azerbaijan," i.e., present-day Armenia.

In March 2006, in a speech to a "world congress of Azeris" in Baku Aliev warned Armenia not to delay seeking a negotiated resolution of the Nagorno–Karabakh conflict. He threatened to pull out of peace talks with Armenia unless there is progress in the mediation effort since "we have been holding peace talks for the last twelve years…", "this process cannot last forever and the patience of the Azerbaijani people and of the Azerbaijani government is running out." Aliev added that Azerbaijan's roughly $600 million military budget is "increasing year by year" and that he considers it his duty "to make our military expenditure equal [to] Armenia's entire budget" so that "Armenia will never be able to compete with us."[18] The Azerbaijanis must sense that time is on their side, given their oil riches and the resource restraints on the Armenians.

The rhetoric of the Azerbaijanis is noted and repeated by Armenians, though it seems primarily directed at the domestic audience in an effort to find patriotic backing for the regime. When Georgia appeared to be effectively defying Russia in the first days of the August 2008 war, Azerbaijanis were excited about the possibilities of changing the balance of forces in the South Caucasus and possibly recovering Karabakh. But once the Russians entered South Ossetia, drove back the Georgians, and destroyed its American-trained army, it was clear that the balance of forces had changed in favor of Russia and, by extension, Armenia. Baku is dependent on the pipelines through Georgia for export of much of its oil and gas to the West. Though the war did not damage the pipelines – the Russians assiduously avoided that – it may have had a baleful effect on those who might finance expansion of these pipelines in the future.

Baku's calculus seems to be that there is no need to antagonize Russia unnecessarily, that NATO membership would lead to the same kind of confrontation that Georgia faced, and that a more nuanced policy toward Russia might bring more satisfactory closure to the Karabakh problem.

Source: Suny (2010).

Unit 6.4: Cause and Effect

1.Discuss with your partner whether learning standard academic phrases helps you to write well or prevents you from expressing yourself.

2.Identify the *cause* and the *effect* in the examples in the following table.
e.g. <u>Iodine deficiency</u> (cause) leads to <u>enlargement of the thyroid</u> (effect).

Phrases indicating causality	
Type of phrase	**Example**
Verbs (+ prepositions) indicating causality Cause; bring about; lead to; result in ; produce; give rise to Results from; stems from; is caused by; is brought about by; produced by; is driven by; can be attributed to	The revolution brought about a complete transformation of society. Aggressive behaviour stems from an inability to deal with frustration by other means.

Nouns (+ prepositions) indicating causality Consequence (of); result (of); reason (why); cause (of)	The collapse of the Weimar Republic was one consequence of the Great Depression. Life expectancy has risen as a result of people eating better diets. Higher wages and better living conditions are the reasons why some people migrate to wealthy countries.
Prepositional phrases Because of; owing to; due to; on account of; as a result of; as a consequence of	There was a traffic jam as a result of a car accident on one of the major roads. She wore glasses owing to her short-sightedness.
Sentence connectors As a consequence; consequently; therefore; as a result; because of this; as a result of this; because	He had toothache. Because of this, he went to the dentist instead of going to work. He did not go to work because he had toothache.
Adverbial elements Thereby; thus; so (that); so (as to)	The firm raised its prices, thereby increasing its profits. She was so ill that she went into hospital. He was so thirsty as to need emergency rehydration.
-ing form	His alarm clock failed to go off, making him late for work.

Sources: Based on Morley (2015) and Hewings (2012).

3.Match the causes (1-6) to the effects (a-f):

1. The electricity supply failed.
2. There was an outbreak of the Ebola virus.
3. The river broke its banks.
4. Prices rose faster than wages.
5. Many parents take their children to school by car.
6. The government needed more money.

a. The town was flooded.
b. Living standards fell.
c. The ministry of health took emergency measures.
d. There is a lot of traffic in the morning when the schools are open.
e. The city was plunged into darkness.

f. Taxes were increased.

Now combine the cause with the effect using some of the phrases you have learned e.g.

As a result of the river breaking its banks, the town was flooded.

Note that you may need to alter some words in the sentences 1-6 and a-f.

4.**Think of SIX cause and effect relationships in your own field of research. Write one sentence about each relationship. Use phrases from the table above.**

5.In pairs discuss:

a) Why is it difficult to establish cause and effect relationships?

b) How is it done in your discipline?

Unit 6.5: Sequences and Orders

The following words and phrases can all be used to sequence events in time, such as stages in an experiment, or events in history.

Word/phrase	Examples/tenses

First of all To begin with At first In the beginning Initially At the start At the outset	First of all we carried out a survey of the affected area. *Past simple*
Earlier Before this / that / doing something Previously Prior to doing something / this	Before taking the drug the volunteers were all screened for pre-existing medical conditions. *Past simple*
While During In the meantime Meanwhile All this time Simultaneously At the same time	During the Second World War, many women worked in factories. While I was in London I went to the British Library. Meanwhile I will go on holiday. While I am working I like to listen to music. All this time the pollution was building up. All this time the pollution has been building up. *Past simple x 2* *Future* *Present continuous* *Past continuous* *Present perfect continuous.*
Now Next Their next step was to… Then Afterwards After this/that/doing something Later Subsequently Following	In the next section I argue that… Next I will show that… Their next step was to consolidate power. *Present simple* *Future* *Past simple*
Eventually Finally In the end Ultimately At last	Eventually we will find a solution. Finally we show that… Eventually the speculative bubble burst. *Future* *Present simple* *Past simple*

At the beginning of the twentieth century In the early (years of the) twentieth century In the middle of the twentieth century In mid-century In the late (years of the) twentieth century Towards the end of the twentieth century At the end of the century In the first/second half of the twentieth century	At the beginning of the twentieth century, the world was dominated by a handful of great powers. *Past simple*
In 1989 In June Between 1989 and 2015 From 1989 to 2015	In 1989 the Berlin Wall came down. *Past simple*
From the outset From the (very) start Since 2010 Until recently Up to now To date So far	From the very start of the process, France has been an advocate of closer European integration. Until recently, little has been published on this topic. *Present perfect simple x 2*

1. **i) Put the following stages of a research project into the right order. ii) Compare your answer with your neighbour's. iii) Write a paragraph for a Methods section describing the project, using phrases from the table above.** a) The graduates completed the questionnaires.
   b) The results then had to be interpreted by the researcher.
   c) The researcher decided that a questionnaire was the best way to gather the required data.
   d) The data was entered by hand onto a computer.
   e) The research problem and the data required to tackle it were identified by the researcher.
   f) The questions were altered in the light of the pilot study.
   g) The questionnaires were handed out to four classes of graduates.
   h) The questions were created according to the recommendations of Jones & Smith (2010).
   i) The questionnaires were collected from the graduates.
   j) The questionnaire was tried out on an undergraduate class as a pilot study.
   k) The data was analysed using a statistical package.

2. **i) Read the following historical timeline. ii) Write a paragraph about Henry VIII and his six wives, using phrases from the table above.**

Year	Event
1491	Henry was born.
1509	Henry became King of England.
1509	Henry married Catherine of Aragon.

1516	Catharine of Aragon gave birth to a healthy girl, Mary.
1526	Henry tried to seduce Anne Boleyn but she refuses him. He had already had an affair with her sister, Mary Boleyn.
1527	Henry asked the Pope to annul (cancel) his marriage to Catherine of Aragon.
1529	The Pope did not grant Henry’s request.
1531	Henry separated from Catharine of Aragon.
1533	Henry married Anne Boleyn
1533	Anne Boleyn gave birth to a healthy daughter, Elizabeth.
1534	Henry persuaded Parliament to make him head of the church in England and to reject the Pope’s authority.
1535	Henry had an extramarital affair.
1536	Catherine of Aragon died.
1536	Anne Boleyn was accused of adultery and found guilty.
1536	Anne Boleyn was executed.
1536	Eleven days after Anne’s execution, Henry married Jane Seymour.
1537	Jane Seymour gave birth to a healthy son, Edward, but she died soon after.
1540	Henry married Anne of Cleves whom he agreed to marry because of a portrait by Holbein.
1540	Henry had the marriage to Anne of Cleves annulled, apparently because he found her less beautiful than the portrait.
1540	Henry married Catherine Howard.
1541	Catherine Howard was condemned for adultery and executed.
1543	Henry married Catherine Parr.
1547	Henry died.
1548	Catherine Parr died.
1557	Anne of Cleves died.

The following words and phrases can be used to order the elements of a discussion.

Word/phrase	**Example**

Firstly, secondly, thirdly…	Secondly, the evidence of an increase in inflation is weak. *"Fourthly" is rare and higher numbers are even less common.*
In addition Moreover Besides Furthermore Another consideration/factor/explanation is…	In addition we need to take into account the results of the interviews with the participants.
Lastly Last but not least… Finally In conclusion	Lastly, the majority of participants reported no adverse effects on their health during the trial period.

3. **i) Think of six reasons why your department needs a bigger research budget and could spend it effectively. ii) Write a paragraph justifying a bigger research budget using the phrases in the box above. iii) In pairs, read your paragraphs to one another. iv) Discuss who has the better case for an increased research budget.**

4. **In your own time:**
   a) Visit the Academic Phrasebank website at http://www.phrasebank.manchester.ac.uk/
   b) Become familiar with the site and note down your impression of how useful it is.
   c) When you return to the group, discuss with your colleagues whether it is useful or not.

Unit 6.6: Reference List

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